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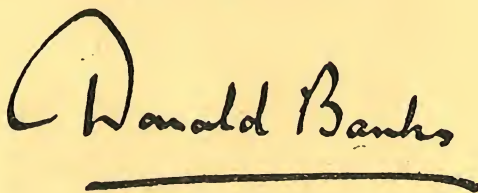
AIR PUBLICATION 1455

2nd Edition, April, 1936

STANDING ORDERS
OF THE
AERONAUTICAL INSPECTION
DIRECTORATE

Issued for the information and guidance
of all concerned

By Command of the Air Council


Donald Banks

AIR MINISTRY

Reprinted December, 1937

This reprint has been amended to date. It includes amendments promulgated in Amendment Lists Nos. 1-4



The amendments promulgated in the undermentioned amendment lists have been made in this publication.

Amendment List		Amendments made by	Date
Number	Date		
1	April, 1936	} Included in this	reprint.
2	August, 1936		
3	April, 1937		
4	Sept., 1937		

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INTRODUCTION

Functions and Scope of the A.I.D.

1. The primary function of the A.I.D. is to inspect the supplies and services for which contracts or orders are placed on behalf of the Royal Air Force. The A.I.D. also inspects periodically certain special classes of stores and equipment held by the Royal Air Force—namely, explosives and the danger buildings (wherever situated) in which they are housed, and stocks of perishable goods at stores depôts; and re-examines stores which may, for any reason, be suspected of having undergone damage or deterioration. In addition, the A.I.D. inspects British-owned civil aircraft in order to ensure compliance with the Air Navigation Act and the regulations and directions pursuant thereto; carries out the technical examinations of applicants for licences as ground engineers, and supervises the work of all licensed ground engineers who are actually employed as such.

2. The word "inspection" is used in different contexts with so many distinct meanings that it is important for A.I.D. staff clearly to understand the scope of the directorate's functions as set out above, and to realise that the A.I.D. has nothing to do with such other forms of "inspection" as, for example, the inspection of personnel or the inspection of factories.

3. Since A.I.D. staff have at times to collaborate with the inspecting staffs of other government departments, it is here essential, in order to prevent misconceptions and possible friction, to emphasize that the inspecting organizations of such other departments are not necessarily, or usually, parallel, or even similar, to that of the Air Ministry.

4. Inspection being but one of several functions to be discharged in the course of keeping a defence force equipped, the A.I.D. must of necessity have constant relations with other directorates of the Air Ministry—especially with those charged with provisioning, with technical development and with the placing of contracts. To ensure efficiency it is essential that each directorate shall keep to its own allotted function and not overlap any part of another's; but it is to be constantly borne in mind that the joint efforts of all are directed to a common objective, and that consequently co-operation must be not merely formal but cordial. To this end A.I.D. staff must strive to realise the nature of the problems and difficulties besetting other directorates, and endeavour at all times, not only to avoid adding to those difficulties, but to diminish them wherever there is an opportunity of doing so.



BASIC PRINCIPLES OF INSPECTION AS PRACTISED AND ENFORCED BY A.I.D.

1. *Statement of principles.*—To ensure that inspection shall be worthy of the name, and shall function as a reliable safeguard, certain basic principles must be fulfilled without fail. These principles are four in number, as follows :—

(i) Inspection must verify that each and every stipulation in the contract, and in the specifications, drawings and/or other documents, governing the supply, is complied with.

(ii) There must be a complete chain of individual responsibilities for inspection at each stage of progress, and a certainty of subsequently identifying the individuals concerned in such inspection.

(iii) The identification of the matériel must be maintained from start to finish : that is to say, it must be possible to establish that the matériel passed at each stage is that which actually progresses to the next and subsequent stages.

(iv) It follows from the foregoing that inspection must be recorded fully and systematically.

In the remainder of this chapter these fundamentals are further elaborated and commented on.

2. *Verification of all stipulations.*—(i) Every contract or order subject to A.I.D. inspection contains a clause to the effect that inspection shall be to the satisfaction of D.A.I. or his authorised representative. The latter term includes the A.I.D. Inspector-in-charge to whom inspection under that contract is allocated, and through him any member of the A.I.D. under his control who is engaged thereon. Further, goods which will be finally inspected at one place may undergo at some other place one or more process or preliminary inspections, and the A.I.D. staff engaged in these are likewise D.A.I.'s authorised representatives. Unless each member of the A.I.D. verifies every stipulation of the contract (including specifications, etc.), which concerns his share in the inspection of the goods, the A.I.D. representative who has finally to certify that the goods are correct, and through him the D.A.I., may be betrayed into a false statement, and may thereby admit into service goods that are lacking in safety, value, or serviceability. These considerations apply with equal force whether manufacture is entirely at the contractor's works, or is partly or wholly sub-let.

(ii) The responsibility for complete verification operates both ways : that is to say, the Inspector-in-charge who entrusts any inspection to another member of the A.I.D. is

responsible for ensuring that full particulars of the requirements are rendered available to that person, or that he is informed where he is to find them.

(iii) The converse of the necessity for enforcing all the provisions of a contract is that no other requirements are admissible ; that is to say, the inspecting authority may not impose requirements over and above those stated or implied in the contract or its accompanying documents. If these provisions do not suffice to ensure safety and/or serviceability, it is the Inspector's duty to report the matter to A.I.D. headquarters, through his immediate superior ; but provided the goods submitted for inspection conform in all respects to contract, they must be accepted for payment, even if they are unfit for service.

3. *Chain of individual responsibilities.*—(i) The power of subsequently identifying the person who inspected any article at any stage is vital to the efficient conduct of an inspecting organization, since it at once fixes and limits individual responsibility, ensuring that each member of the inspecting staff shall be accountable for his own work, and for that only. Such identification can be effected by two methods, which may be applied separately or conjointly—the application of a stamp and the signing of a document.

(ii) To every member of the A.I.D. inspecting staff is issued a set of stamps, suitable for marking the various kinds of articles with which the directorate is concerned. Each stamp bears the initials "A.I.D.", together with a collection of letters and numerals which identify the holder, who is responsible for the safe custody of the stamps and for prevention of any improper use.

(iii) The presence of an Inspector's stamp on, or covering, any article at any stage of manufacture signifies that the article has been seen by the Inspector, and has been found by him, at that stage, to be fit to go forward.

(iv) Where an article undergoes a series of process inspections, each involving inspection stamping, a definite position is assigned to the impression covering each separate process, so that there shall be no confusion as to the individuals who passed the work at each stage. The positions are laid down in Inspection Instructions.

4. *Linkage of identity of matériel.*—(i) All precautions to ensure efficient inspection may be rendered worthless by the least uncertainty whether the matériel or article is in fact the same from start to finish. The risk of loss of identity is greatest with materials as distinct from partly manufactured articles, but is not absent in the latter.

(ii) At first sight it may appear that, when once a piece of material has been embodied in one or more manufactured parts, its identity vanishes. If this were true, the whole value of the inspection carried out on the material as such

might be sacrificed. It is, however, feasible to devise means whereby material can be traced back to its origin beyond all doubt, even after it has been converted into manufactured articles. With somewhat less difficulty can be verified the identity of a part at each successive stage in its production.

(iii) The main features in the system of identification adopted and enforced by A.I.D. are briefly as follows :—

(a) Every consignment of material intended to be put into manufacture is covered by a document known as a "release note", which quotes marks on the materials or packages and thus ensures correlation. Any articles wholly or partly made under sub-contract are likewise "released" for transmission from the sub-contractor to the main contractor.

(b) On arrival at their destination, the materials or parts are placed "in quarantine" and are not allowed to be removed therefrom until the relevant release note is received. They are then transferred, under the superintendence of the inspecting authority, to a "bonded store", and all movements of goods into and out of the bonded store are controlled by, or on behalf of, the inspecting authority. A record is kept of all entries into the bonded store, correlating each with its release note.

(c) When materials or parts are required for use in the works, they are issued from the bonded store, and are accompanied by a numbered "job card" by which they are correlated, through the bonded store record, with the relevant release notes. The "job card" accompanies the "job" throughout, and on it the members of the inspecting staff who pass the job at successive stages place their stamps and/or signatures. Should a job arrive at any stage with its job card showing a blank for inspection at the previous stage, the inspector should refuse to accept it.

5. *Vital importance of inspection records.*—From the foregoing it will be clear that the responsibility of the inspecting authority, and of the members of its staff, does not cease when the goods have been delivered. On the contrary, it is often necessary at a later period to substantiate that an article has been properly inspected. Recording is therefore essential, and the records must be full and clear. Where inspection is already recorded in a document intended for preservation, the main system of records need not refer thereto—duplication is to be avoided. But where, as is usual during progress through the works, such running record is of a temporary kind, a permanent record must be made, and must be such that later reference to it will definitely establish the nature and extent of the inspection performed. Later sections of this Air Publication and Inspection Instructions lay down how such records are to be compiled and maintained.



GENERAL DUTIES OF INSPECTORS-IN-CHARGE

The A.I.D. representative appointed to control any outstation is designated the Inspector-in-charge, and the head of a headquarters branch similarly ranks as Inspector-in-charge. The general duties attaching to these appointments are set out in the remainder of this chapter ; but it is to be understood that these particulars are intended only as an outline, and that the duties of any such appointment include the observance of the provisions of this publication, so far as they apply to the appointment in question.

ORGANIZATION OF THE A.I.D.

I.—General Organization

1. *General organization into Divisions.*—Under the Director of Aeronautical Inspection, the A.I.D. is organized into divisions, the heads of which are directly responsible to him. Each division is responsible for the inspection of definite classes of work. There is also a branch directly responsible to D.A.I. for matters of general administration and finance.

2. *Subdivision into Headquarters and Outstations.*—The work of A.I.D. staff falls naturally into two categories, which may be described as "technical direction" and "executive inspection". Technical direction consists in determining how any given article or product shall be inspected and tested; executive inspection in carrying out the actual examination and test, or in supervising such operations carried out by others. The two functions are distinct, and in general are not performed concurrently by any one person. Technical direction is carried out at headquarters, whereas executive inspection must of necessity take place where the goods are made or delivered. Accordingly, the staff of each division is divided into "headquarters" and "outstations". Those members of the staff who are classed as "headquarters" are engaged in technical direction; they may, and indeed must, visit outstations in the course of their duties, but they do not themselves inspect work, save when appealed to by outstation staff for a decision on some doubtful matter. With this exception, the actual examination and testing of supplies are carried out solely by "outstation" staff, as is likewise the supervision of those operations where these are performed by "firms' approved inspection". (See Leaflet C.7.) Occasionally it may be convenient to carry out certain inspection from headquarters, but staff who are habitually so employed are classed as "outstation staff posted to headquarters". Each individual is classified as "headquarters" or "outstations", and retains that classification unless and until formally transferred from one category to the other.

3. *Headquarters organization.*—The headquarters staff of each division is divided into "branches", each branch dealing with specific subjects or aspects of the work, and not overlapping any other branch. Though every branch forms part of a division, some branches specialise in subjects which concern more than one division, the outstanding example being the Materials Branch (I.M.). In order to avoid duplication, it is laid down that other divisions, instead of setting up

branches of their own to deal with materials, refer such matters directly to A.C.I.S.1., which branch thus acts as consultant on its special subject to the whole directorate. This applies to any branch whose speciality is not confined to its own division. In addition to exercising technical direction, each division is responsible for controlling and administering its own outstations.

4. *Outstation organization.*—(i) Many of the supplies purchased for R.A.F. use are of such a nature that they can be adequately inspected in the finished state ; but others, and these of the more highly specialised and technical kinds, demand inspection during, as well as after, manufacture. Provided they are delivered to a place at which A.I.D. staff can be stationed, goods of the former class can be inspected after delivery ; the others, however, must be inspected at the makers' works. Moreover, failing delivery to a place where inspection can be arranged, it may be necessary to carry out inspection at the works even when the nature of the supply does not require that course. Any goods ordered " free on rail " or " free on board ", or taken over by the Service on leaving the works, must likewise be inspected there, irrespective of other considerations.

(ii) Where the nature of the work or the terms of the order necessitate inspection at the works and its volume provides a whole-time task for one or more inspectors, a " Resident Station " is opened. Such a station is normally administered from headquarters by the division concerned ; but in certain circumstances it is administered and controlled by an office.

(iii) Where inspection at the works is necessary but the volume of work does not justify a resident station, recourse is had to visiting. All visiting inspection is carried out from centres known as " Offices ", each having its own territory, the limits of which are determined by ease and/or cheapness of access.

(iv) Resident stations and offices have, in addition to carrying out direct inspection, to supervise the operation of " firms' approved inspection ", as detailed in Section C, Leaflets C.4 and 5.

(v) Goods for R.A.F. use are customarily delivered to Stores Depôts, and for the purpose of inspecting such goods A.I.D. staff are posted to those depôts. Each such group of staff constitutes an " Inspection Bond ", which is administered from headquarters by the division whose work preponderates at the bond.

(vi) In addition to the foregoing types of outstation, there is the A.I.D. Test House, at which is centralised the testing of materials, instruments, and apparatus.

GENERAL DUTIES OF AN INSPECTOR-IN-CHARGE OF A BRANCH

1. The technical direction and standardisation of all inspection relative to his branch, in connection with Air Ministry contracts, L.P.O.'s and/or sub-contract orders off Air Ministry contracts.

2. The technical direction and standardisation of all inspection relative to his branch, in connection with work executed for foreign governments, civil constructors, &c., for which arrangements have been made for inspection by the A.I.D.

3. The summarising and collation of such developments in experimental design and construction as arise at stations as a result of Air Ministry contracts or civil type development, with a view to the advancement of inspection procedure, data, and methods of testing.

4. The issue and/or amendment of technical instructions, data, and notices to aircraft owners and ground engineers relative to the work of his branch, as may be necessary.

5. Technical correspondence with appropriate sections of other directorates of the Air Ministry.

6. The technical control, and such administrative control as may be necessary of staff posted or attached to his branch.

7. The custody of all equipment, documents, drawings, &c., on charge to his branch.

8. The necessary action to ensure that—

(i) the work of the Branch, particularly incoming correspondence, is dealt with promptly and methodically ;

(ii) every letter received from sources other than R.A.F. units, Air Ministry establishments, or other government departments, is formally acknowledged on the day of receipt, unless it can be answered within 48 hours. Formal acknowledgment is to be made by the despatch of A.M. Form 180, but the use of this form is to be restricted to a minimum, every effort being made to answer the letter within the above period. Where a formal acknowledgment has been made and a complete reply cannot be sent within three weeks, an interim reply is to be sent.

(iii) a review is made monthly of every file held in the branch, a report being rendered to the head of the division showing the position of all files then in the branch.

9. The necessary action to ensure that all orders, office memoranda, notices to A.M.R.D. branches, and inspection instructions that are issued from time to time are properly complied with, so far as they affect his branch.

GENERAL DUTIES OF AN INSPECTOR-IN-CHARGE OF AN A.I.D. OFFICE OR GROUP OFFICE

1. The inspection, and/or supervision of firms' own inspection as specified in the "General Conditions of Air Ministry Contracts" (A.M. Form 705), of all work for which instructions to inspect have been received by him.

2. Upon instructions from headquarters the duties detailed in Leaflet B.9.

3. The compilation of such inspection, contract, or other records and technical data as may be called for by headquarters.

4. The submission of suggestions for new and/or improved methods of inspection or testing, and for the issue of new or amended inspection instructions.

5. The custody of the station imprest, when issued, and all equipment, transport, documents, drawings, &c., on charge to his office.

6. Such action as he may consider necessary to ensure that the daily movements of all staff posted or attached to the office are duly recorded.

7. The control and administration of the office and of all A.I.D. staff posted or attached thereto. This includes such matters as imprest account, attendance records, the distribution of stationery, heating, lighting, sanitation and telephones, also compilation of data as to cost of inspection.

8. The necessary action to ensure that all orders and inspection instructions that are issued from time to time are properly complied with so far as they affect his office.

9. The control and administration of such resident stations as are allocated to him by headquarters.

GENERAL DUTIES OF AN INSPECTOR-IN-CHARGE OF AN INSPECTION BOND AT A R.A.F. STORES DEPÔT

1. The A.I.D. bond at a R.A.F. ~~stores depôt~~^{M UNIT.} forms a constituent part of the depôt organization, and the Inspector-in-charge is responsible to the C.O. that the A.I.D. staff posted or attached to the bond comply with the rules, regulations and orders issued by the C.O. The Inspector-in-charge acts as technical adviser to the C.O. when so required; but for the conduct of inspection as such the bond is, of course, technically directed from A.I.D. headquarters. It is, however, within the province of the C.O. to instruct the Inspector-in-charge as to the relative priority to be awarded to the current work at any time.

2. The functions of an inspection bond are as follows, and are here shown in the order of priority to be normally adopted, in the absence of instructions to the contrary:—

- (i) Inspection of new supplies.
- (ii) Inspection of issues to contractors, Government establishments, or another ~~stores depôt~~^{M. UNIT.}
- (iii) Re-inspection of perishable stores.
- (iv) Re-inspection of ~~depôt~~^{M.U.} stocks and unit returns.

3. *Correspondence with inspection bonds.*—(i) Correspondence on purely inspectional matters between an inspection bond and other parts of the A.I.D. will be conducted directly with the Inspector-in-charge of the bond, to whom such communications will be addressed.

(ii) All other correspondence with the bond, even when the subject appears to concern A.I.D. only, will be conducted through the C.O., who will be the addressee for such communications.

4. *The general duties of an Inspector-in-charge of an A.I.D. inspection bond at a R.A.F. ~~stores depôt~~.*—(i) The inspection and/or testing of new supplies delivered to the ~~depôt~~^{M. UNIT.} under Air Ministry contracts and local purchase orders.

(ii) The re-inspection of unit returns on receipt at the depôt as may be directed by the C.O. of the ~~depôt~~^{M.U.}

(iii) The reconditioning of stores and/or equipment submitted by the C.O. of the ~~depôt~~^{M.U.} as suspected of damage or deterioration in store.

M U (iv) Re-inspection of all equipment which is to be issued by the ~~depôt~~ to an Air Ministry contractor or a Government Establishment, and of other issues as may be directed by the C.O. of the ~~depôt~~^{M.U.}

M.O

(v) Reporting to the C.O. of the ~~depôt~~ ^{M.O} all instances in which deliveries of new non-aeronautical supplies are found on inspection to differ from contract requirements, and to recommend with reasons in each such instance that the goods be either: (a) accepted, (b) taken at a reduced price, or (c) rejected.

(vi) The submission of suggestions for new and/or improved methods of inspection or testing, and for the issue of new or amended inspection instructions.

(vii) Rendering to the C.O. of the ~~depôt~~ such advice and assistance on technical points as he may demand.

(viii) Where a pattern room exists, the control and supervision thereof, and of the sealing, maintenance and recording of all patterns located therein.

(ix) The inspection, approval and sealing of patterns for issue to tenderers and manufacturers.

(x) Technical control and administration of staff posted or attached to his bond.

(xi) The compilation of data as to the cost of inspection.

(xii) The custody of all equipment, documents, &c., on charge to the bond.

(xiii) The necessary action to ensure that all orders and inspection instructions that are issued from time to time are properly complied with so far as they affect his bond.

(xiv) Such other functions as are described in D. of E. Standing Order No. 38 and subsequent issues.

5. In addition to the duties detailed in this leaflet as being common to all inspection bonds, Kidbrooke Bond has certain additional duties which are peculiar to itself, as set out hereunder.

6. *Pattern room.*—The Air Ministry Pattern Room at No. 1 ~~Stores Dépôt~~ ^{M.O} forms part of Kidbrooke Bond. The Inspector-in-charge of the bond is responsible for ensuring that the pattern room is properly conducted and operated, that the provisions laid down in Leaflet D.5 for the custody, sealing and recording of patterns are complied with, and that any regulations made by the C.O., No. 1 ~~Stores Dépôt~~ ^{M.O}, regarding visitors to the pattern room are enforced so far as lies with the A.I.D.

7. *Reporting on tender samples.*—Whenever tenderers for Air Ministry supplies are called upon to submit samples of the goods they propose to deliver, such samples are sent to Kidbrooke Bond. The bond is informed by the headquarters branch concerned to what requirements the goods have to conform, and instructed to render a report to the branch, stating which is the lowest-priced sample that conforms in full with the requirements, and, where this is not the lowest tender, giving particulars as to why the lower-priced samples are not acceptable.

GENERAL DUTIES OF THE INSPECTOR-IN-CHARGE OF THE A.I.D. TEST HOUSE

1. The inspection and testing of all material and/or articles submitted to the Test House.
2. Dealing with all applications for test in the Test House.
3. The compilation of such inspection records and technical data as may be called for from time to time by headquarters.
4. Recommendations to headquarters for the issue of new or amended inspection instructions.
5. Keeping in touch with technical developments arising out of, or affecting, the work of the Test House, with a view to the advancement of inspection data and methods of testing.
6. The control and administration of all A.I.D. staff posted or attached to the Test House. This includes ensuring that such records as time-keeping, attendance, visitors' books and the like are properly maintained; also the compilation of data as to cost of inspection.
7. The custody of all equipment, documents, drawings, &c., held either as articles in use or in reserve in A.I.D. store.
8. The necessary action to ensure that all orders and inspection instructions that are issued from time to time are properly complied with so far as they affect the Test House.
9. The provision, issue and accounting of equipment, furniture and clothing as may be authorised from time to time by headquarters.

GENERAL DUTIES OF AN INSPECTOR OF EXPLOSIVES IN A COMMAND OR AREA

1. The periodical re-inspection and proof, when local facilities admit, of all explosives and ancillary stores held by the Royal Air Force in the command or area.

2. The rendering to the A.O.C. of reports on any matters connected with the inspection, storage, maintenance or handling of explosives, where any delay in action might produce serious consequences.

3. The submission to the A.O.C. of technical advice on the siting and construction of projected danger buildings and of suggestions for improvements in the methods of handling, storage or maintenance of explosives.

4. The technical control of all A.I.D. staff posted to the command or area in connection with explosives.

5. The compilation of such inspection records and technical data as may be called for from time to time by headquarters.

6. The safe custody of all equipment, documents, drawings, &c., as are issued to him.

7. The submission direct to headquarters of suggestions for new and for improved methods of inspection or proof of explosives and for the issue of new or amended inspection instructions.

8. The necessary action to ensure that all orders and inspection instructions that are issued from time to time are properly complied with, so far as they apply.

DUTIES OF AN INSPECTOR-IN-CHARGE AT A CIVIL AERODROME

1. The inspection and/or supervision of all British registered aircraft assigned to him.

2. The supervision of the work of all ground engineers operating at the aerodromes assigned to him.

3. The inspection of the construction of such "type" aircraft as may be allotted to him.

4. The inspection of civil aircraft for the purpose of renewal of certificates of airworthiness as allotted to him.

5. Liaison with the local police authorities in connection with the requirements of the Air Navigation Regulations.

6. Control and administration of the A.I.D. office and of all staff posted or attached thereto. This includes the recording of daily movements of staff and of flights by members thereof on duty, the imprest, attendance records, visitors' book, and the compilation of records as to the cost of inspection.

7. Custody of station imprest, equipment, transport, drawings, correspondence and records on charge to, or in use at, his station.

8. It is to be noted that there are certain special duties pertaining to the Inspectors-in-charge at civil aerodromes abroad. These duties, which are additional to those set out above and may vary at different aerodromes, are dealt with in special instructions issued to each such Inspector-in-charge.

DUTIES OF CLERICAL STAFF AT OUTSTATIONS

Every advantage must be taken of the presence of clerical staff at outstations to relieve the technical staff of clerical duties, as far as possible. Examples are given below showing some of the work which should be undertaken by the clerical staff :—

- (i) Checking the detail of various forms and documents, such as Forms 530, lists of embodiment loans, preliminary check of sub-contract orders, station equipment, &c.
- (ii) Preparation of forms for signature by the Inspector-in-charge.
- (iii) Maintenance of charts and other station records, showing progress on contracts. staff distribution, lists of approved firms, visits to works, &c.
- (iv) Filing, recording and distribution of documents, such as contracts, modifications, A.I.D. orders, Air Ministry publications and orders, A.I.D. concession notes, &c.
- (v) Preparation of draft letters of a routine nature.

APPROVAL AND SUPERVISION OF FIRMS' INSPECTION

1. It is the definite policy of the Air Ministry to utilise the inspection organizations of manufacturers of aeronautical matériel in partial or complete substitution for inspection by A.I.D. staff. Where the goods are supplied to the Air Ministry the substitution is partial, inasmuch as supplies are not taken into R.A.F. service except under the certificate of an Air Ministry Inspector, and consequently the final inspection at least must be carried out by him. For matériel (other than "type" aircraft and engines) intended for use in civil aviation the substitution is complete, inspection throughout—including that of sub-contracted goods—being the responsibility of the constructor.

2. In order to implement and systematise this policy, it is essential to define the extent to which an Air Ministry contractor, or a constructor of civil aircraft, must provide for the inspection of his products. For this purpose specific inspectional requirements are laid down both in "General Conditions of Aeronautical Contract" (A.M. Form 705) and in the "Air Navigation Directions". Further, it is necessary to appoint an authority to whose satisfaction the contractor's or constructor's inspection organization shall be instituted and maintained. D.A.I. is designated as that authority under both sets of requirements, and he allocates supervision to A.I.D. staff as follows:—

(i) At a resident station, to the resident Inspector-in-charge.

(ii) At a non-resident station engaged on Air Ministry work, to the Inspector-in-charge of the appropriate A.I.D. office or group office.

(iii) At a non-resident station engaged solely on civil aircraft, to the Inspector-in-charge at an office, resident station, or civil aerodrome as may be determined at H.Q.

(iv) At a foreign station, to the appropriate A.I.D. headquarters branch.

3. In certain instances, either for technical or other reasons, responsibility for the full inspection of his products is not placed upon the contractor. In such instances, where the contract is for the manufacture of aeronautical equipment, the general conditions of contract (A.M. Form 705) are modified in certain particulars in that the contractor does not undertake to provide inspection gauges, although he has to provide

approved jigs and fixtures as required, and he does not undertake to fulfil the conditions detailed in para. 21 and sub-para. (a) and (b) of para. 22 of A.M. Form 705 ; but he does undertake to fulfil all the other conditions of A.M. Form 705.

4. Where the contract is for the manufacture of non-aeronautical equipment, it is governed by totally different conditions which are embodied in A.M. Form 659 ; these conditions do not impose upon the contractor any responsibility either for inspection or for the testing of materials. Material required for A.I.D. tests is, however, supplied by the contractor free of charge under any set of contract conditions.

5. The inspection clauses referred to in para. 2 above cover all the essential phases of inspection, and, provided each is properly executed by the manufacturer, no other condition is needed to ensure that work which has passed through these various stages is fit for acceptance, or for embodiment in aeronautical construction, as the case may be. Every firm that undertakes work under these conditions must, therefore, obtain a certification, in the form of a letter of approval, that each and every one of the relevant inspection clauses is met by its organization in a thoroughly efficient manner and to the full satisfaction of the A.I.D. Before such certification can be given, it must be established beyond doubt that the practical operation of the firm's inspection organization is and remains sound, and not merely that the paper draft of that organization conforms in theory to the stipulations.

6. The compulsory inspection clauses cover the whole field of production ; and since it is unusual for all the processes of manufacture, from raw material to finished product, to be undertaken in one and the same factory, it is vital to ensure that the chain of efficient inspection is unbroken. The main contractor or constructor is, therefore, made accountable that any work he puts out to sub-contract is inspected in accordance with the stipulations. Further, Air Ministry contracts, placed to the full conditions of A.M. Form 705, for aeronautical materials, parts, components and accessories impose on the contractor the same inspection conditions as in contracts for complete aircraft or engines. It follows that "approval" will be required by, and can be granted to, any firm, provided its inspection organization fulfils such of the inspection clauses as are applicable to the classes of products which it manufactures for aeronautical purposes. Where one firm owns two or more works, approval of the inspecting organization at each works must be separately investigated and a separate letter of approval issued in respect of each works.

7. The fact that a firm's inspection is approved is promulgated by the insertion of the firm's name in the "List of Firms whose Inspection has received A.I.D. Approval".

This list is alphabetical and shows, by means of various columns, the nature and extent of the approval granted to each firm. Amendments to the list are announced in A.I.D. Monthly Orders, and confirmed by amendment lists.

8. A firm's ability to test materials and issue certificates of such tests, whether the materials are of its own production or whether they are obtained for embodiment in its products, constitutes an important aspect of approval, which, however, should not be withheld on account of lack of testing facilities that can be provided by an approved test house. Apart from the acceptance of a certificate provided by an approved test house it must be understood that a supervising inspector may accept the certificate of an approved firm for its own products in so far as he is satisfied that the testing facilities provided are adequate. The ability of a firm, producing instruments or apparatus, to apply adequate and reliable tests for the correct functioning of its products also constitutes an important aspect of approval and is indicated in a special column in the list of firms whose inspection has received A.I.D. approval. This fact is incorporated in the relevant letter of approval.



PROCEDURE FOR THE APPROVAL OF A FIRM'S INSPECTION

1. When an A.I.D. Inspector receives either instructions from headquarters or a request from a firm for the approval of its inspection, he will, unless the firm concerned already appears in the A.I.D. list, investigate what provision, if any, has been or is being made to meet the inspectional requirements. He will, if necessary, explain to the firm the difference between approval as complying with the requirements of A.M. Form 705 and approval as satisfying the inspection clauses of A.N.D. He will inform the firm as to the interpretation to be placed on each of the relevant stipulations, and will discuss with them any alteration or addition to their existing arrangements that may be needed to bring them up to the standard for approval, pointing out, if need be, that their acceptance of the contract or order commits them to the provision of such arrangements to D.A.I.'s satisfaction.

2. To define the extent to which a firm's inspection is to be accepted, and to systematise the practice, specific inspectional requirements are contained in A.M. Form 705 (Clauses 21, 22 and 23) which forms part of every Air Ministry aeronautical contract. These clauses cover certain essential phases of inspection and, provided each is properly completed by the contractor, no other condition is needed to ensure that parts or materials which have passed through the various stages indicated are fully acceptable by the A.I.D. as being fit and proper for embodiment in aeronautical construction to be delivered to the Air Ministry. Every firm that accepts a contract subject to these "conditions" must, therefore, obtain a certificate that each and every one of these clauses is met by their inspection organization in a thoroughly efficient manner to the full satisfaction of the A.I.D., and so that, in fact, the A.I.D. has confidence in the resultant inspection. Before such a certificate is given, however, it must be established beyond doubt that the practical operation of the firm's inspection organization is sound, and not merely that the paper draft of that organization complies in theory with those requirements. The notes in paras. 3-7 are a guide to the interpretation of the individual clauses of A.M. Form 705 that deal with "Inspection."

A.M. Form 705, Clause 21

3. "21. *Contractor's Own Inspection.*—(a) Notwithstanding the Inspector's approval of material by representative test pieces or samples, the Contractor is responsible that the whole of the material is proved to comply with the Specifications by suitable examination to the satisfaction of the Inspector."

Acceptance of material on the usual basis requires that each individual item in a consignment so accepted shall be examined by the contractor's staff for general soundness and for consistency with the test specimens selected. It is also essential that the identity of the various items comprising the consignment or batch be maintained, and that any apparent discrepancy, discovered in the course of machining or subsequent processes, must be considered by the firm's inspection department to determine not only whether the particular item itself should be rejected, but also whether a complete re-test and/or detailed examination of the whole of the consignment shall be made. It is not essential that the firm should possess its own actual testing equipment; if this is lacking the testing of the selected test pieces and specimens may be conducted by an external test house which in itself has been approved by the A.I.D. The firm must be able always to correlate such external test-house reports with its own inspection operation.

Inspection of Aircraft Detail Parts—A.M. Form 705, Clause 21(b)

4. “(b) The Contractor must satisfy the Inspector that he has made such arrangements at his works as will preclude the use of other than approved material.”

To satisfy this condition it is essential that all raw materials be held in a quarantine store until the firm's chief inspector is in possession of documentary evidence of their correctness and conformity to requirements.

Thereafter, too, their identity as to source of manufacture and the authority for their initial approval must be maintained by an adequate system of process cards or a series of stamp marks, until manufacture of the finished part is completed. This point is of special importance in the handling of materials such as alloy steels whose properties are affected by heat-treatment processes introduced in the course of manufacture. The main point to be observed is that batches of approved material are identified and kept together throughout their journeys through the works from initial receipt to final despatch.

A.M. Form 705, Clause 21 (c), (d), (e) and (f)

5. “(c) The Contractor is responsible for ensuring that all detail parts submitted for approval comply with the requirements of the Drawings and Specifications, and must satisfy the Inspector that his arrangements constitute an adequate safeguard.

(d) The Contractor's staff shall reject all parts which are not in exact accordance with Drawings and Specifications, but may refer such parts to the Inspector for decision, drawing attention in writing to discrepancies.

(e) The Contractor must satisfy the Inspector that he has made such arrangements at his works as will prevent the issue to the shops of details or parts other than those approved.

(f) The Contractor shall maintain such records of inspection by his staff as will ensure the ready identification of the individual responsible for passing any part, either for a process or when finished. Such records shall at all times be open to the scrutiny of the Inspector."

In deciding whether the control, scope and detailed organization of a firm's own view-room satisfy these clauses, such facilities must be considered in relation to the nature of the work to be inspected. The requisite standard may be attained at different works despite considerable variation in the size, lay-out and personnel of the respective view-rooms ; in some works one or two inspectors only, with little special equipment, may be adequate ; in others a highly organized personnel with elaborate apparatus may be necessary ; much depends on the nature of the commodity produced, the lay-out and the processes of manufacture employed, and the extent to which special jigs and tools are provided : (see also Sect. 15 (c) of A.M. Form 705.) The detailed needs of a firm in regard to its inspection should be weighed in the light of A.I.D. experience in operating its own staff. Recollecting that the firm's inspection is being judged for its capacity to replace direct A.I.D. inspection, the A.I.D. investigating inspector should consider whether the numbers and the status of the firm's viewers correspond to the A.I.D. staff which he himself would need to employ. Generally speaking, the firm's strength of viewers should not be less than the number that would be employed by the A.I.D. itself. On the other hand, the firm's inspecting personnel may be in excess of that number ; if so, further investigation should be made to determine why the larger number is employed. The cardinal factor throughout is that all parts accepted by the staff of a view-room may be taken with full confidence to comply in every respect with the appropriate specifications and drawings. It is specially to be noted that the firm is given no discretion or power to accept parts or materials which do not strictly comply with specifications and drawings. The firm may, however, submit parts not strictly in accordance with these requirements, but which in their view are still fully acceptable as serviceable to the A.I.D. inspector, who may, if he agrees, grant the firm a written concession and authority for the acceptance of the parts ; the release note subsequently issued by the firm to cover the parts must quote the concession number.

A.M. Form 705, Clause 22

6. "22. *Identification Marking*.—(a) All parts examined by the Contractor's inspecting staff must be stamped by them with an identification mark approved by the Inspector. No parts shall be assembled unless so stamped.
(b) Other means of identification may be employed by permission of the Inspector in cases of small parts that

cannot be stamped, delicate parts that might be injured, and hardened parts on which an impression cannot be produced.

(c) Such markings (manufacturing and service) on components, etc., as may be directed by the Inspector, are to be painted or otherwise affixed on the components, etc., in a manner to be approved by the Inspector.

Full particulars of the marks and method of marking should be obtained from the Inspector."

Apart from ensuring that the parts in the view-room are adequately inspected, it is necessary to ensure that no parts can leave the works without passing through that view-room, and secondly that the individuals responsible for the acceptance of any given part may be identified at a later date, if necessary. The first point is met by the application of a general inspection stamp identifying the firm as a whole ; the second is achieved by the provision for each individual inspector of a personal stamp, the inspector, for instance, being represented by a number or letter. A record of all such stamp numbers in operation at any time must be maintained by the firm. If, as may be the case in small firms, one inspector only is engaged, no special identification stamp is necessary until such time as the individual himself is replaced.

Parts of a character (i.e., of hardness, delicacy, or size) which would not be stamped by the A.I.D. itself, should be bundled or bagged and linked up with a tally or label bearing the stamps instead. Details of all the above marks will be submitted to the A.I.D. beforehand for approval and registration. (Inspection marks indicating approval of specific workshop and/or intermediate processes of manufacture will not be so registered, but none the less must be clearly indicated in the process or progress cards forming part of the records maintained by the firm.)

A.M. Form 705, Clause 23 (a), (b), (c)

7. "*Inspection of Sub-Contracts.*—(a) The Contractor shall supply the Inspector with two copies of his orders on Sub-Contractors at the time of placing these orders.

(b) The Sub-Contractor shall in all cases be bound by the Conditions of the original Contract applicable to the material or parts ordered. All sub-contract orders must contain a clause to this effect.

(c) The Contractor's responsibility for the inspection of sub-contracts is the same as for inspection at his own works, and he must make arrangements for inspection to be carried out, either wholly or in part, at the Sub-Contractor's works, or after delivery, as may be directed by the Inspector."

These clauses ensure firstly : that all sub-contract orders placed by the firm are similarly inspected and controlled ; and secondly : that notwithstanding that the parts or material may have been accepted before receipt at the Contractor's works, he regards himself as no less responsible for their entire correctness than if he had himself conducted the whole of their manufacture up to that stage.

In order that the Contractor may assure himself that the parts he receives from his sub-contractors have been properly dealt with, the consignor will supply with each batch a certificate of inspection (or release note) indicating the extent of the inspection actually applied to the goods prior to despatch. Such release notes must contain as a minimum the following information :—

- (a) A serial number and date.
- (b) Contract, sub-contract or order number.
- (c) Description of the goods.
- (d) Quantity.
- (e) Specification and/or drawing numbers. The number of any A.I.D. concession granted for departure from drawing or specification must also be quoted in this column.
- (f) Identification markings on the goods. Reference under this heading should be made to inspection or other markings, so as to enable the identification of the goods with the appropriate release note to be made subsequently.

In addition, release notes for materials must contain details of tests or a reference to the relevant test report.

Each release note will either contain in itself, or be accompanied by a certificate on the following lines :—

" I hereby certify that the whole of the material and/or parts covered by this Release Note, have been inspected and tested (Test Report No.) and conform with Specification and Drawings relative thereto in accordance with the conditions of A.M. Form 705 and the general requirements of the D.A.I. under whose authority Reference No. the Certificate is issued.

Signed for and on behalf of Messrs.

Date ."

Since the efficiency of any inspection organization depends largely on the personal factor, the nomination of signatories for these certificates must be most carefully considered, and the firm must realise its own responsibilities in respect of the certificate which its nominees will sign. They should, therefore, be individuals of high standing in the works' organization, in such a position as to be able to verify themselves in every case that the inspection for which they are certifying has been properly effected, and that the parts are, in fact, correct in all

respects ; above all, the signing of the certificates is not to be regarded as a mere clerical duty or matter of ordinary office routine. The identity of the signatories will be agreed between the firm and the A.I.D. investigating and supervising officer. These release notes and certificates will be distributed as follows :—

In addition to the copy forwarded with the goods or sent direct to the consignee, one copy will be forwarded to the A.I.D. inspector at consignee's works and one copy to the supervising inspector. The firm itself will file a copy for its own subsequent record.

Supervision

8. The approval of a firm's inspection organization simply indicates that at the time of the approval the firm's organization was, in the view of the A.I.D., an efficient and trustworthy fulfilment of the inspectional requirements of A.M. Form 705 at that date. The permanence of that approval, then, depends on the continued maintenance by the firm of the whole of its organization in a state of no less efficiency than at that date. Any change in the lay-out, number or quality of personnel or signatory of the certificate, may invalidate the approval forthwith. It is, therefore, for the supervising inspector to assure himself that the system originally approved is kept in proper operation by the firm.

9. *Civil Aircraft Constructors*.—One of the essential features of Air Ministry control of civil aircraft has always been a requirement that constructors should maintain their own efficient inspecting organizations. In this case the detailed requirements are set out in the Air Navigation Directions ; they are similar to the inspection clauses of A.M. Form 705, but cover the whole range of inspection of the complete aircraft, whereas A.M. Form 705 deals only with that part of that range that is delegated by the Air Ministry to its contractors.

The detailed requirements of the A.N.D. are also subject to A.I.D. approval, and constructors will, therefore, also require a formal certificate of such approval of their inspection arrangements. The procedure to that end is in every way similar to that to be followed in the former case.

10. If the investigating Inspector is not fully acquainted with the detailed requirements affecting the class of product concerned, or if in the course of the investigation he encounters any point on which he is in doubt, he will apply at once to the appropriate headquarters branch for advice and assistance.

11. As soon as he is able to do so, the investigating Inspector will prepare a detailed report, having on the left side the reference numbers of the relevant clauses in A.M. Form 705 or A.N.D., and opposite each a statement of the method proposed by the firm for meeting that requirement

followed by the Inspector's comments. The report is also to state whether or not the firm is equipped for testing materials or functioning tests ; if so, particulars are to be given, and are to be followed by an expression of the Inspector's opinion as to their suitability for approval. It is important that the report should be in its main essentials a statement of facts.

12. If the investigation is favourable and shows that the firm's organization is suitably devised to meet all relevant inspectional requirements, further action by the Inspector-in-charge will be as follows :—

(i) Where the application is for approval under A.N.D. only, the Inspector is to forward the report, described in para. 11, together with copies of all relevant correspondence to headquarters (I.G.), who will pass it in a registered file to the branch concerned, which, after scrutinizing the report and correspondence, will issue the letter of approval or refusal. The Inspector is also to forward to I.G. with the report a letter showing the design of the stamps which the firm proposes to use as identification marks, in order that I.G. may compare them with his register of approved firm's identification marks and ensure that they do not coincide with those of other approved firms producing similar products.

(ii) Where the application is for approval under A.M. Form 705 and the Inspector-in-charge holds the grade of Assistant Inspector (including that of Assistant Inspector Grade II) or higher grade the following procedure is to be followed :—

(a) The Inspector-in-charge will notify I.G. of the proposal to approve the firm, showing the design of the stamps which the firm propose to use as identification marks and will ask to be informed of the reference number under which the approval is to be given.

(b) On receipt of the notification I.G. will allocate a reference number and, having approved the design of the stamp submitted and obtained the concurrence of the appropriate branches of D. of C. and D.D.I., will notify the Inspector-in-charge that he may proceed with the approval. Where the concurrence of D. of C. and D.D.I. cannot be obtained the file is to be referred by I.G. to D.A.I.

(c) On receipt of instructions from I.G. to proceed the Inspector-in-charge will issue Letter " A " or " B " shown in para. 17. Immediately after the issue of the letter " A " or " B " he is to forward to I.G. a copy of the letter together with the report described in para. 11, a card with the impression of the firm's final inspection stamp, copy of release notes and copies of relevant correspondence likely to be useful at headquarters.

(iii) Where the application is for approval under A.M. Form 705 and the Inspector-in-charge holds the grade of Chief Examiner or lower grade he is to forward to I.G. the design of stamps which the firm propose to use, together with the report described in para. 11 and copies of all correspondence connected with his investigation. I.G. will open an A.M. file for the purpose and having approved the design of the stamp submitted and obtained the concurrence of the appropriate branches of D. of C. and D.D.I. will refer the file to the appropriate A.I.D. branch with a view to their issuing the letter of approval or refusal. When this action has been completed the file is to be returned to I.G. When the letter of approval is issued the Inspector-in-charge is responsible that a card with the impression of the firm's first inspection stamp and a copy of release notes are forwarded to I.G.

13. If the investigation is adverse, the investigating Inspector-in-charge is forthwith to write a letter to the firm refusing approval, except that where he is a Chief Examiner or lower grade he is to forward the report, described in para. 11, together with all relevant correspondence to the appropriate headquarters branch, which will issue the letter of refusal. In every instance a letter refusing approval is to state the clauses of A.M. Form 705 with which it is considered the applicant's inspectional arrangements do not comply, and is to give details as to why they are considered inadequate.

14. The powers of issuing letters of approval or refusal granted to Assistant Inspectors or higher grades are personal to the individuals concerned. The Chief Examiner, Senior Examiner, or man of lower rank, whether acting as deputy to an Assistant Inspector or not, is not empowered to issue letters of approval or refusal in any circumstances, but is to refer the matter to headquarters.

15. Whenever a letter of approval is issued, it is to be accompanied by copies of all inspection instructions applicable to the class of work and/or processes carried out by the firm. A written acknowledgment of receipt is to be obtained from the firm. Should a firm at a later date undertake a different class of work, the necessary additional inspection instructions are to be forwarded immediately for the guidance of the firm by the supervising Inspector and receipts obtained. A record is to be maintained by the supervising Inspector-in-charge of all inspection instructions issued to each and every approved firm under his supervision, in order that copies of any subsequent amendments may be issued to each holder of the inspection instruction so amended.

16. In all letters authorising approval, reference is to be made to the Air Ministry authority under which the approval has been granted, thus :—

Air Ministry reference number.

Certain approvals are in existence which quote an A.I.D. office authority in column 3 of the A.I.D. list of approved firms and on the firm's release notes. These are to continue until a suitable opportunity occurs to substitute an Air Ministry reference as the authority for approval.

17. The two letters shown below are the standard letters of approval and are not to be varied. Letter "A" is to be used except where the approval includes the firm's arrangements for the performance and certification of functional tests of instruments, accessories and/or apparatus, when letter "B" is to be used.

Letter "A".

"Dear Sir(s),

I am directed to inform you that the inspection arrangements at your works at.....
.....are approved by this Directorate as satisfying the requirements of

* Air Ministry Form 705 and

* The Air Navigation Directions.

This approval is subject to supervision by me or my accredited representative, and may be suspended by me, or withdrawn by the Director of Aeronautical Inspection at any time.

The Air Ministry authority to be quoted on your documents issued in connection with this approval is

I am to request that you will acknowledge the receipt of this communication and confirm that its contents have been communicated to your inspecting staff who operate under this approval.

Yours faithfully,

.....

Inspector-in-Charge A.I.D.

.....Office.

for Director of Aeronautical Inspection."

Letter "B".

"Dear Sir(s),

I am directed to inform you that the inspection arrangements at your works at.....
.....are approved by this Directorate as satisfying the requirements of

* Air Ministry Form 705, and

* The Air Navigation Directions.

The approval also covers your arrangements for the performance and certification of functional tests of instruments, accessories and/or apparatus*.

This approval is subject to supervision by me or my accredited representative, and may be suspended by me, or withdrawn by the Director of Aeronautical Inspection at any time.

The Air Ministry authority to be quoted on your documents issued in connection with this approval is

I am to request that you will acknowledge the receipt of this communication and confirm that its contents have been communicated to your inspecting staff who operate under this approval.

Yours faithfully,

.....
Inspector-in-Charge A.I.D.

.....Office.
for Director of Aeronautical Inspection."

* Omit words that are not applicable.

18. At headquarters the responsibility for opening "approval" files rests with I.G. and consequently all letters concerning approval are to be addressed to that branch. Correspondence in "approval" files is to be confined to matters strictly relevant to that subject.

19. At offices, including group offices, a separate folder is to be maintained for each applicant for approval, wherein all papers relating to that approval are to be dealt with. Correspondence in such "approval" folders is to be confined to matters strictly relevant to that subject. Correspondence in connection with investigation of alleged defects in inspection and similar subjects, although relating to the matter of "approval," is to be filed in a separate folder, which, however, should be connected with the "approval" folder.

20. Whenever a letter of approval, either "A" or "B", is issued to a firm the title of the firm and the full address of its works are to be stated in the letter. Should an approved firm change its title or should the firm's inspectional organization cease to function at the address given in the letter of approval, and be transferred to the firm's works at some other address, the letter of approval is to be withdrawn, and, provided the supervising inspector is satisfied that the firm's inspectional organization is still satisfactory at the new address, a new letter of approval is to be issued by the supervising inspector without prior reference to A.I.D. Headquarters. In such instances the reference number of the "approval" should not be changed when the new letter is issued. A copy of the new letter is to be sent to A.I.D. Headquarters (I.G.).

GENERAL REMARKS ON SUPERVISION OF FIRM'S APPROVED INSPECTION, APPLICABLE TO ALL FIRMS

1. It is the duty of an approved firm to issue with each consignment a release note signed by a responsible member of its staff, and to send a copy of every such release note to the supervising Inspector. The latter is responsible that this procedure is rigidly adhered to, and he must ensure that these copies are all carefully scrutinized before they are filed. An approved firm should use its own release notes to cover deliveries under all aeronautical orders which it undertakes, even when such orders are wholly or partly sub-let to another approved firm. Should the firm, in the course of sub-letting, make such arrangements as involve their not "sighting" or inspecting the goods, it is essential that they link up the actual manufacturer's release note with their own.

2. Should the supervising Inspector at any time obtain evidence, either that the conditions under which the approval was granted are not being fulfilled, or that those conditions are not sufficient to ensure reliable inspection, he will immediately report the full circumstances to the appropriate headquarters branch. He will differentiate between occasional and individual failures due to human fallibility, which are inevitable, and failures which indicate some change of method, or a slackening of control, or interest in, inspection on the part of the firm's management. If the supervising Inspector considers the matter of the report to be serious, and should the contractor not be willing or able to make the necessary alterations, he will at once notify the firm that the approval of its inspection is suspended; the decision as to further action rests with the head of the Division.

3. Inspectors supervising approved firms operating under A.M. Form 705 are responsible that the firms are in possession of copies of all relevant A.I.D. Inspection Instructions. Initial issues of such instructions include additional copies for this purpose; further copies are obtainable from I.G. Similarly, Inspectors supervising firms operating under A.N.D. are responsible that the firms are in possession of all relevant Inspection Leaflets, issued under A.P. 1208, which the firms can obtain on repayment from His Majesty's Stationery Office, York House, Kingsway, London, W.C.2. In this connection, Inspectors-in-charge should advise firms under their supervision when such Inspection Leaflets are issued, quoting the relevant amendment list number. This applies also to any amendment list covering alterations to earlier issues.

4. Supervision needs to be particularly frequent and thorough in the early stages of the operation of a new approval, or when work is undertaken which differs materially from the firm's normal production.

5. Co-operation is desirable between supervising Inspectors and Inspectors-in-charge at the consignee's end. As far as is practicable, the latter should report to the former all instances in which work released by an approved firm is found to be below the required standard. Such action is of real value to the supervising Inspector in directing his attention to those firms in his area which require most frequent visits. These reports should be brief and may be in the form of unofficial correspondence. At the larger resident stations these reports may, if more convenient, take the form of monthly statements, tabulating the firms concerned and the nature of the departures from standard which have been observed. It is essential that these reports should be made and accepted in a spirit of co-operation and that the procedure here outlined should not be regarded as a substitute for the normal D.I.R. procedure, *see* Section N.

6. Check testing is another important aspect of supervision. There are two main purposes for check testing :—

(i) to ensure that the tests carried out by approved test houses (which term includes all firms approved for testing) are accurate ; and

(ii) to ensure that the material represented by the tests is in itself uniform throughout.

Care and thought are necessary, therefore, in the selection of samples for testing and in analysing the results of such tests. Regarding (i) it is necessary that the sample should be taken from a position as near as possible to that from which the firm's sample was taken, whereas with regard to (ii) the sample should be taken from a position as remote as possible from that which the firm's sample was taken. In the latter instance it may be advisable to take more than one test sample in order to determine the uniformity of the parcel involved.

7. It is necessary that A.I.D. Test House should be advised of the results obtained by the firm's testing department and similarly, that the firm should be informed of the results of the A.I.D. check test, whatever those results may be.

SUPERVISION OF APPROVED INSPECTION ORGANIZATIONS AT RESIDENT STATIONS

1. Aircraft and engine constructors manufacturing to the conditions of A.M. Form 705 and/or the Air Navigation Directions are responsible for ensuring that :—

(i) The whole of the material used is proved to comply with the specified requirements by suitable examination to the satisfaction of the Director of Aeronautical Inspection.

(ii) All detail parts submitted for approval comply with the requirements of the drawings and specifications.

(iii) All manufacturing and reconditioning processes are carried out under conditions satisfactory to the A.I.D.

(iv) When aircraft and aero engines are constructed to A.N.D. requirements, the constructor is responsible also for ensuring by suitable examination that all "assemblies" comply with the approved design requirements.

2. The Inspector-in-charge must be satisfied that the inspection for which the constructor's organization is responsible has been carried out satisfactorily before A.I.D. inspection is undertaken.

3. To be effective, the supervision of a constructor's inspection by A.I.D. staff must be carried out systematically and the results carefully and properly recorded. It is essential that the constructor shall realise that the object of this supervision is to ensure that the required degree of efficiency is maintained by his approved organization and to detect inefficient inspection by individuals. He is accordingly to be kept fully advised of the results of A.I.D. supervision.

4. The procedure for recording these duties resolves itself into two sections, viz. :—

(i) Constructor's detail viewing.

(ii) Check of all manufacturing processes.

5. *A.I.D. Check of Constructor's Detail Viewing.*—(i) The extent of check inspection by A.I.D. will depend on the output ; but the Inspector-in-charge at any station is responsible that a member of his staff spends not less than one hour per day in the constructor's view room. The expression "constructor's view room" is used for convenience to denote any place in which inspection under the requirements of A.M. Form 705 and/or A.N.D. is carried out by the constructor's staff. A different individual should, where possible, be allocated for this duty each day and time of attendance

should be varied from day to day. The A.I.D. representative is to re-inspect at random, batches of parts and details that have been passed and stamped by the constructor's inspecting staff, and to make on A.M. Form 1375 a careful record of the extent and result of his examination. This record is to be compiled in duplicate, and is to include all instances in which re-inspection has shown that the constructor's inspection has been carried out satisfactorily, as well as those instances in which it has been found to fail. On the other hand, it is not to include reference to detail parts which the constructor's viewers, being themselves in doubt, have referred to the A.I.D. for final decision.

Note.—To achieve accurate determination of dimensional and material conditions of detail parts, it is necessary that the check inspection be made prior to the application of protective processes and the like.

(ii) It is important that the check re-inspection shall not be confined to any particular class of product; it is to be spread effectively over the whole range of work passing through the view room, in order to secure a true measure of the ability of each member of the constructor's viewing staff.

A tabulated record is to be maintained at each resident station, showing the name of each viewer, his stamp number and the result of each check of his work. This check is to be made weekly, the record being ruled in vertical columns, at the head of each column being entered the date of the last day of each week. A satisfactory check of each individual's work is to be indicated in the appropriate column by a red tick, a black tick indicating the reverse. The Inspector-in-charge is to forward the duplicate of the A.M. Form 1375 to the firm monthly, with a covering letter giving a general statement of the results of supervision during the month. This procedure is independent of the action that is required to be taken separately and immediately when a failure on the part of the constructor's inspection staff so warrants. The original of the record, together with copies of the ensuing correspondence between the Inspector-in-charge and the firm, is to be systematically filed in the Station records. A copy of each covering letter issued by the Inspector-in-charge to the firm is to be forwarded to the head of the division.

6. *Recording of A.I.D. Check on Manufacturing Processes.*—

(i) Records of this supervision are to be maintained by the Inspector-in-charge in a log book—"Universal log"—as detailed hereunder. The log is to take the form of a standard S.O. Book 129 with a 3-folder printed chart attached to the first page. Instructions as to the headings to be entered on the left-hand column of the chart are issued to each station from headquarters with the first chart, but it is the responsibility of the Inspector-in-charge at each station to advise

headquarters whenever he considers it necessary to add to, amend or delete any of these headings to meet special conditions at his station. One of the headings will be "Firm's Detail Inspection", and in this connection the Inspector-in-charge is to make an independent scrutiny to ensure that the view-room check referred to in para. 5 (i) is being correctly maintained. A suitable entry is then to be made in the log. The chart is an index to the log, and a numerical system is to be employed in compiling the chart; for example, "20" in one square would indicate that reference to Item 20 entered in numerical order in the log would give all the details regarding that check inspection.

(ii) The Inspector-in-charge is to ensure that a check under each heading is carried out not less than once every two months, and that no week is allowed to pass without at least one check being made. These are the minimum requirements; where the volume of the work warrants, more frequent checks may be desirable. Each separate check inspection is to be legibly recorded, preferably in typescript, in the log, and each entry is to give full particulars of the check carried out. The results of test, errors found, breakdown of system, action taken, etc., are all to be clearly recorded for future reference. It is equally important to record the fact if the firm's inspection is found to have been satisfactory. A record of a check is not to be entered until the whole of the resultant action can be described in a complete and conclusive manner. The individual making the check is to sign the entry in the log. The Inspector-in-charge is to scrutinise the log at the end of each month in order to satisfy himself that the procedure is being properly and efficiently maintained; he is then to initial the date, etc. It is essential that the firm shall be kept fully advised of the result of this supervision, and shall realise that the object of this procedure is to ensure that the required degree of efficiency is maintained by his inspection organization, and to detect inefficient inspection by individuals.

Consequently the results of this supervision must be reported monthly to the firm by means of a station memorandum, a copy being forwarded by the Inspector-in-charge to the head of the division concerned.

7. At resident stations other than aircraft or engine constructors the objects to be attained are as described in para. 1, sub-para. (i), (ii) and (iii), and so far as is applicable the procedure laid down in paras. 2-6 is to be worked to.

SUPERVISION OF FIRM'S APPROVED INSPECTION AT NON-RESIDENT STATIONS

1. Every effort is to be made to apply the procedure described in Leaflet C.4, at the works of aircraft and engine constructors, where A.I.D. staff is not resident.

2. At other non-resident stations supervision of the firm's inspection can only be carried out efficiently by a regular system of visits by the supervising Inspector, who, by examining the firm's records, by check re-inspection and/or re-test, and by personal observation generally, should be able to satisfy himself as to the continued efficiency of its inspection. The work of each individual viewer is to be checked on the same principles as those applying to resident stations, *see* Leaflet C.4; but the tabulated record may be kept on the reverse side of A.M. Form 1215, the date at the head of the vertical columns being that of the day on which the visit was paid to the firm's works. In addition to any check re-inspection or re-testing which may be effected by the supervising Inspector before goods are despatched, he may request the Inspector-in-charge at the receiving end (excluding a R.A.F. stores depôt unless for very exceptional reasons) to carry out check inspection and/or check tests on any goods covered by an approved firm's release note. Care must, however, be exercised to avoid taking samples for such check tests from small consignments, unless there is some exceptional reason for doing so. When an Inspector-in-charge who has been asked to make a check test finds difficulty owing to the nature of the consignment precluding material being spared, or for any like reason, he will refer back the request to the supervising Inspector, giving full particulars of the difficulty. Should the supervising Inspector still wish to test the consignment in question, he will refer the matter to the appropriate headquarters branch, and if he is in any doubt as to the serviceability of the goods he will arrange for them to be held up pending headquarters' decision.

3. Where it is considered necessary to request the Inspector-in-charge at the receiving end to make a check test, such request will be submitted on A.M. Form 694, appropriate amendments being made to the form before submission, and brief reasons for making the request being given in the column of remarks. On receipt of the form the receiving Inspector will, if he has already carried out a check test, complete the form and return it, together with a copy of the test report, to the initiating inspector, or, if no check test has been carried out, will arrange to have it carried out under A.I.D. supervision at the works, if adequate facilities exist there. If the check test is satisfactory, the Inspector will complete A.M. Form 694 and return it to the initiating inspector, together with a copy

of the test report. If, however, the check test is unsatisfactory, he will notify the initiating inspector at once and transmit samples to the A.I.D. Test House for further check. If this second check test confirms the result of the test carried out at the works, a failure of inspection is indicated and immediate action will be taken in accordance with Section N. On the other hand, if the A.I.D. check test is satisfactory it is to be accepted and A.M. Form 694 is to be completed accordingly and returned to the initiating inspector, together with a copy of the A.I.D. Test Report. Where no facilities exist for check testing at the works, samples are to be forwarded to the A.I.D. Test House, and further action, as above, is to be taken.

In general, consignments from which check tests are taken are not to be held back to await the outcome of such tests. This course is allowable only when there is ground for suspecting a failure of inspection. In general, check-testing after delivery is applicable only to sub-contracted goods. Only under very exceptional conditions is it permissible on deliveries to a R.A.F. stores dépôt.

4. Supervising Inspectors are to maintain records of all supervisory visits made, of all requests for check inspection, and of the results of all check inspections and check tests, wherever performed. Discovery of any shortcoming in the operation of an approved inspection will necessitate the production of satisfactory evidence that supervision has been efficient. The maintenance of ample and systematic records is consequently essential.

5. In order to avoid needless supervisory visits, the supervising Inspector when sending a letter of approval to a new firm will accompany it with the following letter (designated letter "Z") unless the firm is actually employed on an Air Ministry contract or sub-contract to the full conditions of A.M. Form 705 :—

Letter "Z".

"Dear Sir(s),

Approval of Inspection.

I am directed to refer to the enclosed letter under which authority for the approval of your inspection arrangements has been given and to instruct you that you are not permitted to issue release notes or despatch goods under such authority until you have notified me that you are in receipt of an aeronautical contract or order, have subsequently been visited by my representative and obtained his permission in writing to do so.

I am to request that you will acknowledge the receipt of this communication and confirm that its contents have been communicated to your inspecting staff.

Yours faithfully,

Inspector-in-Charge A.I.D.

.....Office.
for Director of Aeronautical Inspection."

With the same object in view the supervising inspector is to send any firms under his supervision who have not obtained an aeronautical contract or order for a period of six months the following letter (designated letter " C ") :—

Letter " C " .

" Dear Sir(s),

Approval of Inspection.

I am directed to refer to the arrangements whereby your inspection organization has been approved by this Directorate, and to state that, as you do not appear to have received during the past six months any aeronautical contract or order, my supervision of your inspection will be suspended forthwith.

I am therefore to instruct you that, in the event of your receiving any such contract or order in future, you are to inform me immediately, in order that a supervisory visit may be made ; and that until such a visit has been made you must not issue any approved release notes.

I am further to request that you will acknowledge the receipt of this communication, and confirm that its contents have been communicated to your inspecting staff.

Yours faithfully,

Inspector-in-Charge A.I.D.

.....Office.

for Director of Aeronautical Inspection."

6. When the supervising inspector is satisfied that normal supervisory visits can be resumed in connection with a firm that has received letter " C ", or can be commenced with a firm that has received letter " Z ", he will cancel either of these letters with the following letter (designated letter " D ") :

Letter " D " .

" Dear Sir(s),

Approval of Inspection.

I am directed to refer to the arrangements whereby your inspection organization has been approved by this Directorate, and to my previous letter reference..... dated.....

I am to state that since it appears that you are now more actively engaged in the execution and inspection of aeronautical contracts and orders, it is proposed to *resume/commence normal supervision of your inspection and to visit your premises from time to time for that purpose.

* Delete the word not applicable.

I am to advise you, therefore, that pending further instructions from me, it is no longer necessary for you to notify this office of each aeronautical contract or order as received, and you may proceed, under the original terms of your approval, with the inspection and release of the supplies concerned.

Notwithstanding this arrangement, however, I am to request you to communicate with this office, at once, in the event of any doubt arising in connection with the arrangements relating to the approval of your inspection.

I am further to request that you will acknowledge the receipt of this communication and confirm that its contents have been communicated to your inspecting staff.

Yours faithfully,

Inspector-in-Charge A.I.D.

.....Office.
for Director of Aeronautical Inspection."

APPROVAL FOR CERTIFICATION OF THE USE OR TRANSMISSION OF MATERIAL PREVIOUSLY RELEASED

1. (i) As laid down in Section E, inspection of sub-contracted goods is to be made after delivery whenever possible. Certain forms of material, however, and many aircraft and engine parts are such that, while detailed inspection for dimensions and workmanship can be made after delivery, it is not then possible, even by destroying a percentage, to establish the correctness of the material, nor is it then feasible to verify that cast test-pieces are truly representative of a batch of castings.

(ii) Contractors often wish to obtain such materials, castings, or parts from a sub-contractor whose own inspection has not been approved, and to rely on passing them, after delivery, through their own approved viewroom ; but this alone cannot be accepted, because of the necessity for verifying the material. The Inspector-in-charge, acting in accordance with Section E, would then be justified in requiring such a sub-contract order to stipulate inspection before delivery, thus compelling the contractor, in order to fulfil the conditions of contract, either to send his own inspectors to the sub-contractor's works or to arrange for A.I.D. to inspect there on repayment.

(iii) To overcome these difficulties, a procedure has been devised whereby a firm who do not qualify for approval of their own inspection may nevertheless be granted a special form of approval empowering them to certify that they have embodied in the goods delivered nothing but materials previously released, or that they are reconsigning such materials unaltered, or that test pieces cast in their foundry are truly representative of an accompanying delivery of castings.

(iv) The procedure whereby approvals of this kind are granted is set out in paras. 2-4 below and para. 5 describes the manner in which contractors can avail themselves of it.

2. When the Inspector-in-charge of an A.I.D. office receives a sub-contract order endorsed as at para. 5 below, or other intimation that it is desirable to investigate the possibility of approving a firm within his jurisdiction for certification of the use or transmission of material previously released, he will proceed as follows :—

(i) He will visit the firm, explain the principle at issue, and ascertain whether they are willing and able to make such arrangements as he considers satisfactory, in the nature of a " bonded store ", to keep approved material separate from any other material that may be in the

works ; or, in the special instance of a foundry, to make satisfactory arrangements for correlating test pieces with the batch of castings which they represent. Except for raw material intended for use in foundry work, he will inform the firm that they must supply him with a copy of each sub-sub-contract order they place for aeronautical material, and that before they can utilize or transmit any material they must be in possession of, and able to produce for scrutiny at any time, a release note issued either by A.I.D. or by an approved firm, covering such material and referring to the relevant test report.

(ii) Should the Inspector find that the arrangements described in sub-para. (i) above can be satisfactorily instituted, he will inform the firm that, when working to any order endorsed as in para. 5 below, they must cover each consignment by an approved certificate bearing a signed certificate in one or other of the following forms, as may be appropriate. Distribution of such approved certificates is to be the same as laid down for release notes in Leaflet K.3.

(a) *For transmission of material unaltered :—*

“ I hereby certify that the whole of the material described hereon has been previously approved under the release note(s) quoted and is in the same condition as when received.

(Signed)
for and on behalf of
Messrs.
(Date) ”

(b) *For castings :—*

“ I hereby certify that the test pieces accompanying the castings described hereon were cast with, and truly represent, those castings.

(Signed)
for and on behalf of
Messrs.
(Date) ”

(c) *For parts other than castings :—*

“ I hereby certify that the articles described hereon have been made wholly from the materials previously approved under the release notes quoted above, and that no other material whatever has been embodied in those articles.

(Signed)
for and on behalf of
Messrs.
(Date) ”

3. At a suitable stage during the negotiations the Inspector-in-charge of the office will obtain from headquarters (I.G.) the Air Ministry reference number under which the approval is to be granted. He will then issue to the firm a letter of approval which is to be in the following form :—

“ Dear Sir(s),

Approval for the certification of materials previously released

I am directed to inform you that the arrangements in your works at.....for the receipt, segregation, and despatch of materials (and the correlation of test pieces with castings)* are hereby approved.

This approval is subject to supervision by me or my accredited representatives, and may be suspended by me, or withdrawn by the Director Aeronautical Inspection, at any time.

The Air Ministry authority to be quoted on your documents issued in connection with this approval is.....

Yours faithfully,

Inspector-in-Charge A.I.D.

.....Office.
for Director of Aeronautical Inspection.”

The letter of approval is to be accompanied by a letter “ Z ” in accordance with the arrangements set out in Leaflet C.5.

4. The Inspector will then forward a copy of the approval letter, and of all relevant correspondence, to I.G., who will take action as laid down in Leaflet C.2.

5. In order to make use of this procedure, a contractor will endorse his sub-contract order “ Subject to inspection after delivery to our works, material to be certified in accordance with the requirements of the local representative of the Director of Aeronautical Inspection ”. Where an order so endorsed is addressed to a firm not already approved for certification, the Inspector-in-charge will, if and when he has issued a letter of approval as at para. 3 above, endorse his copy of the order “ Certification of material arranged ”, and return it to the Inspector-in-charge, A.I.D., responsible for inspection at the main contractor’s works. He is also to advise the latter promptly in the event of its proving impracticable to arrange certification.

6. Where material undergoes, at the sub-contractor’s works, a heat-treatment or other process modifying its original condition, verification of such process becomes an inspectional operation ; consequently, a certificate of correctness from a sub-contractor who has no inspecting organization cannot be accepted as guaranteeing the final product, though such certification may be utilized to cover stages prior to heat-treatment.

* Delete the words in brackets where not applicable.

APPROVAL OF TEST HOUSES

1. The approval of a manufacturer's own testing arrangements forms part of the general approval of his inspection as set out in Leaflet C.2 ; but it frequently occurs that he has no adequate testing facilities, and it is then necessary for him to make use of a suitable test house or laboratory, which must be approved by the A.I.D. for that purpose. Inspectors-in-charge may therefore be approached by contractors, or by the heads of such test houses or laboratories, asking for formal approval. Such applications should be dealt with in accordance with the following procedure :—

(i) A visit should be paid to the laboratory or test house in order to ascertain the type of work undertaken and whether it is suitably staffed and adequately equipped for such work.

(ii) A preliminary report should then be forwarded to I.G., who will open a registered file and pass it to the appropriate branch. This report should give full details of the type of work undertaken, the staff and their qualifications and the equipment available. Where a schedule of charges is published a copy should be included with the report. On receipt of this report, the head of the appropriate headquarters branch will instruct the investigating Inspector regarding further action to be taken.

2. At a suitable stage during the negotiations the investigating Inspector will obtain from the appropriate headquarters branch the Air Ministry reference number under which approval is to be granted. As soon as he is satisfied that the test house or laboratory is fit for approval he will issue a letter of approval, which is to be in the following form :—

"Gentlemen,

I am directed to inform you that your $\left\{ \begin{array}{l} \text{test house} \\ \text{laboratory} \end{array} \right\}$
is approved for the $\left\{ \begin{array}{l} \text{testing} \\ \text{analysis} \end{array} \right\}$ of

as meeting with the requirements of Air Ministry Form 705 and the Air Navigation Directions.

A copy of each test report issued by you under this approval is to be forwarded to me at the above address.

This approval is subject to supervision by me or my accredited representatives, and may be suspended by me, or withdrawn by the Director of Aeronautical Inspection, at any time.

The Air Ministry authority to be quoted on your documents issued in connection with this approval is / .

I am, Gentlemen,

Your obedient Servant,

Inspector-in-Charge A.I.D.

at..... ”

3. On the other hand if he is satisfied that the test house or laboratory is not fit for approval he will issue a letter refusing approval and will state the reasons for refusal.

4. As soon as he has issued a letter of approval, the Inspector will send a copy of it, and of all relevant correspondence, to I.G., who will take action as laid down in Leaflet C.2.

APPROVAL OF INSPECTION CARRIED OUT BY FOREIGN SUPPLIERS OF MATERIAL

Foreign firms supplying aeronautical materials and/or parts may appear in the A.I.D. List (Category " X "), if their inspection arrangements are found such as to permit their products to be adequately inspected after delivery by re-examination and selective testing. Although such supplies will be accompanied by advice notes and certificates issued by the consignor, the foreign firms' inspection cannot be "approved" in the same sense as that of a British firm, since it cannot be supervised. The measure of approval that can be granted is only that which permits their products to be inspected after delivery ; it remains the responsibility of the consignee to inspect and test to all the requirements of the specification. All approvals in this category will be granted in the first place, and thereafter maintained, by the headquarters branch concerned, which will correlate the data furnished by the consignor with those obtained from check tests and re-inspection carried out by the consignee and/or A.I.D.



INSPECTION OF AIR MINISTRY CONTRACTS

1. When a contractor obtains a contract from the Air Ministry for any supply for the Royal Air Force, he is required by the terms of the contract or order to conform to one or more drawings, specifications and/or patterns, or to supply proprietary articles, *see* Leaflet D.6, which may or may not have to conform to the requirements of a drawing or specification.

2. Inspection of the supply has for its principal object to determine whether the supply does or does not so conform, and to deny it admittance for payment if it does not. Consequently, before any member of the A.I.D. staff begins to examine any article or consignment, it is his first duty to study closely the drawing, specification, or pattern which forms the standard of acceptance, and specially to note carefully any stipulations that may be difficult to verify in the course of inspection. If he is in any doubt as to suitable means of verification, he is to apply for guidance to his immediate superior. Further, while it is not suggested that the various stipulations, dimensional and other, are all of equal importance, it is essential that the operation of inspection shall determine definitely whether or not each and every one of the stipulations is fulfilled. Only after this has been done can the question be considered whether or not the departures (if any) from the requirements necessitate rectification or rejection.

DRAWINGS TO GUIDE INSPECTION

1. *Contract drawings.*—Contracts, when distributed to out-stations by headquarters branches, will, as far as possible, be accompanied by the drawings referred to in the contract. The form conveying the instruction to inspect (A.M. Form 1277) will indicate whether or not the necessary drawings are being supplied.

2. If drawings are not supplied with the contract but are nevertheless required for the proper execution of inspection, the Inspector-in-charge who receives the copy of contract (except at Nos. 3 and 4 Stores Depots) is to indent direct as under, giving drawing and issue number, etc. :—

(i) For all aircraft, engines and instruments (including W/T and electrical).—The Air Ministry Drawings Library.

(ii) Armament.—I.Arm.

(iii) For General Stores.—I.S.

At Nos. 3 and 4 Stores Depots the Inspectors-in-charge will use the drawings supplied to the Depot Drawings Library.

3. *Drawings required by headquarters staff.*—Complete sets of aircraft and engine drawings only are available for reference by headquarters staff in the Air Ministry Drawings Library. These drawings may be borrowed in the usual way by leaving a receipt with the librarian. Other drawings will be obtained by Air Ministry Drawings Library on request.

4. *Return or destruction of drawings.*—(i) Drawings issued for inspection purposes are valid only for the duration of the contract for which they are issued, and on its completion they are to be destroyed.

(ii) With regard to drawings issued to contractors, it is the duty of the A.I.D. Inspector-in-charge to see that these are either destroyed or returned to the Air Ministry on the completion of the contract or fulfilment of the purpose for which they were issued. Generally speaking, they should be destroyed, but the Inspector-in-charge must exercise his own discretion, and if he has reason to believe that the drawings are required for re-issue to the same or another contractor, and are in suitable condition for re-issue, he will instruct the contractor to return rather than to destroy them.

EFFECT OF MODIFICATIONS ON INSPECTION

1. (i) Introduction of modifications into contracts is effected by an "Amendment to Contract" issued by D. of C. to take effect either on a specified date or in specified aircraft or engines.

(ii) Any proposed alterations which are necessary to correct drawing errors are not regarded as modifications, but are submitted to D.T.D., who will authorize the correction to be carried out, and notify all concerned by means of a "Drawing Correction Sheet".

(iii) The Inspector-in-charge, having received a copy of D. of C.'s letter instructing the contractor to introduce a modification, is responsible that the modification is embodied in accordance with D. of C.'s instructions.

(iv) Whenever the introduction of a modification involves an adjustment of the contract price, to cover the additional work on parts already in course of manufacture, the Inspector may be called upon to check the quantity of parts involved, and the extent of the work that has to be done on such parts.

(v) In addition to enforcing all authorized modifications, Inspectors are responsible for withholding approval of any modification that has not been thus issued.

(vi) Inspectors may submit to headquarters modifications suggested to obviate particular difficulties or recurrent defects.

2. The Modification Sheets, Drawing Correction Sheets and Drawing Introduction Sheets will be issued to all concerned immediately they are available, but it remains the duty of Inspectors-in-charge to indent where necessary for drawings affected by modifications.

3. Embodiment of modifications in depot stocks is dependent on D. of E.'s classification list. A.I.D. Inspectors-in-charge at depots must therefore acquaint themselves with the classification of all modifications affecting stores submitted by the depot for examination.

SPECIFICATIONS GUIDING INSPECTION

1. Whenever goods inspected by, or under the supervision of, A.I.D. are ordered to a specification, it is the duty of the Inspector-in-charge to ensure that the inspection verifies every provision of the specification that is definite and precise. Where the specification itself lays down the method of verification to be employed, it must, in general, be adopted, unless an Inspection Instruction expressly allows an alternative, but instances in which the prescribed method presents special difficulty may be referred to the appropriate headquarters branch for decision. In the absence of any such stipulation and of explicit guidance in an A.I.D. Order or Inspection instruction, the Inspector-in-charge will adopt, or permit, any method he considers to be satisfactory.

2. It is to be particularly noted that vague indeterminate phrases, such as "good commercial quality", "suitable material", and the like, do not constitute effective stipulations, and that compliance with such expressions will not be verified in the course of inspection. Where any property or quality of a supply purports to be governed by such an indefinite phrase, it means that, from an inspectional aspect, no stipulation has been made, and therefore that no attention need or should be given to that particular property or quality when the goods are inspected.

3. Specifications prepared specially to govern a particular contract or order are valid only for its duration and are then to be destroyed.

Enforcement of Specifications for Materials

4. Where a standard specification is quoted in a contract, or in a drawing or other document governing the work under a contract, the issue that is in force on the date of placing the contract is to be worked to. The promulgation of a revised specification during the progress of a contract does not legally affect the contract unless an official "Amendment to Contract" is issued by D. of C. In the absence of such an amendment, the contractor would be quite in order in continuing to work to the issue of the specification which was in force at the date of the contract.

5. In this connection, however, it is pointed out that, in British Standard Specifications of the "Aircraft" series, the prefix figure indicates the issue, the remainder of the reference number being a generic index to the class of material. For example, in B.S.S. 3.F.35, "F.35" is the generic index of the specification for aircraft flax cordage, and the prefix "3"

denotes the third issue. Drawings and other documents which remain valid for long periods will frequently quote the generic index only. The omission of the issue number is not to be regarded as a reference to an "obsolete" specification; it is for the Inspector to ensure that the contractor, when placing sub-contract orders, quotes the correct issue, either by quoting the full reference number of the current specification, or by a general endorsement on the order or drawing that the latest issue of all specifications is to be worked to.

6. If, during the course of his duties, an Inspector finds that the contract or accompanying documents quote a specification that is obsolete, he will report the matter to the appropriate headquarters branch, in order that, if considered necessary, action may be taken with the design authority. Instances may, however, occur in which a contractor or sub-contractor wishes to utilize an existing stock of material, or of parts made from material produced to a specification of earlier than current issue. Each such instance may be treated on its merits, the Inspector being guided by the nature and extent of the differences between the respective issues, and, where these differences are appreciable, by the possibility or impossibility of determining whether the material does in fact comply with the current issue. When in doubt, the Inspector is to refer the matter to headquarters.

PATTERNS GUIDING INSPECTION

1. *Purpose of patterns.*—Patterns are used for three main purposes :—

(i) As the standard to which a supply is to conform in all respects.

(ii) As an illustration of the general nature of the article required.

(iii) As the standard for certain properties or qualities of an article, which cannot be conveniently described or pictured.

2. *Air Ministry and co-ordinated patterns.*—There are two types of patterns in use by the Air Ministry. Firstly, there are patterns instituted by the Air Ministry in connection with its own supplies of equipment ; secondly, there are co-ordinated patterns for stores standardized by the technical co-ordinating committees, such stores being common to at least two, and usually all three of the defence services. The two series of patterns are identified by distinguishing labels, and do not overlap : when a co-ordinated pattern is created, the corresponding Air Ministry pattern (if any) previously in existence, is abolished. The labels for these two kinds of patterns differ in colour, and are as follows :—

<i>Co-ordinated patterns.</i>	<i>Air Ministry patterns.</i>
Standard pattern blue (C.P.L.3) label.	Yellow A.M. Form 1303.
Working pattern pink (C.P.L.2) label.	Green A.M. Form 1206.

All sealing and labelling of standard and working patterns is to be carried out by the pattern keeper or, in his absence, by the person deputed to act for him.

3. *Definitions and nomenclature.*—In any mention, whether verbal or written, of a pattern, sample or the like, it is essential to adopt the correct designation of the article in question, or serious confusion may arise. The following definitions are therefore standardized for universal observance :—

(i) *Standard pattern.*—The ultimate standard of reference to which stores are to conform in so far as their properties and qualities are not defined in documents.

(ii) *Working pattern.*—A certified facsimile of a standard pattern.

(iii) *Master working pattern.*—A working pattern held at Stores Depots to act as a standard pattern and which is retained permanently in the depot to act as a standard of reference.

(iv) *Temporary sealed article*.—An article serviceable or otherwise, issued to govern a particular contract, or order, when there is no standard pattern or specification.

(v) *Specimen article*.—An article issued for general guidance but not for copying.

(vi) *Sample*.—A specimen submitted to the Air Ministry, or any of its establishments, from an outside source.

4. *Standard and working patterns*.—For each item of equipment for which a pattern is required a single standard pattern is sealed. The articles to be sealed as standard patterns are to be selected and agreed upon between the D. of E. and the D.A.I. and represent the minimum standards to which all such stores must conform. For general convenience the articles to be sealed, as working patterns, are to be passed to the Pattern Room for sealing by the A.I.D. and thereafter returned to the Stores Depot at which the stores are held. Such working patterns may be issued :—

(i) as exhibits for the purpose of obtaining tenders or estimates ;

(ii) to govern manufacture under a contract or order ;

(iii) for reference in inspection.

5. *Issues of working patterns*.—Authority for the issue of a working pattern under (i) of para. 4 will be given by the Air Ministry. Issue under (ii) will be automatic wherever conformity to a pattern forms part of the stipulations of the contract or order. In all other circumstances, the issue of a working pattern is prohibited except under express written instructions from the Air Ministry. Issue under (iii) will be made on application from an Inspector-in-charge, A.I.D., to the C.O. of the depot concerned. Before any working pattern is despatched it is to be submitted to the A.I.D. at the issuing depot and approved as suitable for the purposes intended. The label of the working pattern is at the same time to be dated and initialled by the examiner approving the pattern. All working patterns are to be compared with the standard pattern, or master working pattern, before issue. Working patterns, other than cuttings, remain sealed so long as the standard pattern is in existence and are only changed when they become damaged or are found to be defective in any way. Working patterns on return to the depot are to be examined by the A.I.D. before being taken on charge by the depot.

6. *Working patterns of textiles and materials*.—Working patterns of textiles and materials, other than made-up articles, will generally be provided, as and when required, by taking cuttings from bolts or pieces, conforming in all respects to the standard patterns. These working patterns will be issued for tender purposes, as well as to govern contracts, and will only be utilized in connection with particular tenders, or

contracts, in respect of which they are issued. The tender or contract number to which they refer will be stated on the pattern labels. These will be prepared and sealed by the pattern keeper and issued by the Inspector-in-charge, A.I.D., No. 1 Stores Depot, Kidbrooke, on instructions from D. of E., or the officer commanding the depot at which the stores are held.

7. *Custody of and accounting for standard patterns.*—The custody of standard patterns is an A.I.D. responsibility. Articles approved for sealing as standard patterns are to be vouched on Form 600 by the appropriate stores depot to the clerk-in-charge, A.I.D. Test House. They are to be brought on A.I.D. ledger charge, and issued on Form 674 to the pattern keeper in charge of the pattern room at No. 1 Stores Depot. Standard patterns are not to be removed from the pattern room without Air Ministry authority given by the appropriate Headquarters Branch.

8. *Custody of and accounting for working patterns.*—Working patterns are in the permanent custody of the appropriate stores depot and when required on loan by Air Ministry contractors are to be issued direct to the consignee. When required on loan by an A.I.D. representative, application is to be made by letter to the C.O. of the appropriate stores depot. Working patterns are to be despatched direct to the consignee and vouched to the clerk-in-charge, A.I.D. Test House, who is to bring them on ledger charge and re-issue on Form 674 to the A.I.D. representative concerned. Working patterns held by an A.I.D. representative are to be returned direct to the stores depot, and notification given to the clerk-in-charge, A.I.D. Test House, by the consignor.

9. *Register of patterns.*—The pattern keeper maintains a register of all standard patterns and against each item is to be shown every working pattern sealed as agreeing with the standard pattern.

10. *Purchase of articles for sealing as patterns.*—(i) It is of great importance that patterns, whether standard or working, shall truly represent the properties of the supplies which the Service requires. Whilst, therefore, delay and expense are to be avoided where possible by selecting, for sealing as patterns, articles from depot stocks, such selection is allowable only when the stock articles are correct in every respect. In all other instances the Inspector-in-charge at the depot concerned is to report to the C.O. of that depot, that purchase of suitable articles is necessary. A local purchase order will then be placed and the articles when inspected and approved are to be forwarded to the Commanding Officer, No. 1 Stores Depot, for passing to the pattern room for sealing. The Inspectors-in-charge at other stores depots will at the same time notify

the Inspector-in-charge, No. 1 Stores Depot, of the action taken, in order that necessary arrangements may be made for sealing the articles when received.

(ii) When a standard pattern needs replacement, owing to its becoming unserviceable, and an article exactly similar to the pattern is not procurable, it will be necessary to replace all corresponding working patterns as well as the standard.

(iii) Only in the event of the utmost urgency is it permissible to seal, as a working pattern, an article which is not a facsimile of the standard pattern. To any article so sealed an endorsement is to be made, on the label attached, giving full particulars of its variations from the standard pattern and a special note will be made by the pattern keeper that the emergency working pattern is to be replaced immediately a correct one can be obtained. In no circumstances may an incorrect article be sealed as a standard pattern; but, should an emergency arise and instructions be received from the appropriate headquarters branch, the standard pattern label may be endorsed as a temporary measure to cover any departures from the standard pattern, pending such time as the correct standard pattern is available. On no account are co-ordinated patterns labels to be endorsed.

11. *Replacement of standard pattern.*—Standard patterns are not to be changed during the progress of a contract, or order, or after the contractors have seen the pattern at the tendering stage. Should it be necessary, however, to replace the pattern during the stages referred to, owing to fresh tenders being issued to cover a new requisition for a modified article of the same reference, the original standard pattern will still be retained and the words “cancelled, but to govern Contract or Order Nos.....” written across the label in red ink.

12. *Alteration and cancellation of patterns.*—Whenever a standard pattern is altered or cancelled, notice is to be sent by the pattern keeper to all holders of the corresponding working patterns, instructing such holders to return the working patterns, or to remove the labels and forward them for cancellation to the pattern room. Where the standard patterns are modified, fresh working patterns are to be obtained and sealed and then returned to the depot concerned. This procedure is essential except where a standard pattern, which has become unserviceable, is replaced by a precisely similar article.

13. *Transmission from headquarters to the pattern room, of articles for sealing.*—Where an article for institution as a pattern is selected at headquarters, it will be passed to No. 1 Stores Depot through the D. of E. branch concerned, in order that the latter may concur and that the entry of the article may be duly recorded at the depot.

14. *Periodical review of standard patterns.*—The entire stock of standard patterns is to undergo gradual review at such a rate that every pattern is reviewed once a year. The object of this procedure is two-fold ; firstly, to ensure that the articles held as standard patterns have not undergone such change as to be no longer fit for use as patterns ; and secondly, to bring patterns up to date. It is the duty of the Inspector-in-charge, A.I.D., Kidbrooke Bond, to recommend to the appropriate headquarters branch the substitution of an up-to-date pattern when such action is desirable. The periodical review system must not be taken to imply that out-of-date and unserviceable patterns are to be replaced only when their unsuitability is revealed during review. On the contrary, any such replacement found to be desirable is to be effected as early as possible.

15. *Temporary sealed articles.*—The purpose of a temporary sealed article is to obtain an article of equipment, or part thereof (usually a replacement), for which there is no general demand and which is therefore not the subject of a pattern or standard specification, e.g., a broken detail or component of ground equipment, such as a winch-handle or a crane gear-wheel. Temporary sealed articles are to be strictly confined to this purpose. Each temporary sealed article is to have sealed to it a label bearing the words "Temporary sealed article," together with a brief description and the reference of the contract or order for which it is to be issued. The labelling and sealing will be carried out by the depot, and the article, thus labelled, submitted to the A.I.D. prior to issue, if the item is one which is normally inspected before issue. The order or contract is to require the return, with the supply of stores, of the temporary sealed article, which will then be available for the purpose of the inspection of the stores delivered.

16. *Specimen articles.*—On occasions it is necessary in the interest of the Service for a contractor to see the article for which he has the specification and/or drawings. For this purpose an article may be taken from stock and issued to the contractor "as an indication of the general character of the supply". These specimen articles may be issued on application, either at the tendering stage or on receipt of a contract or order, which includes a clause allowing for the issue of a specimen article. The labelling and sealing of specimen articles will be carried out by the appropriate stores depot ; A.I.D. are not concerned with them.

17. *Contractors' accepted samples.*—Contracts are sometimes placed "to sample submitted by contractor". The supply is then governed by that sample, which *for that one contract* supersedes the standard pattern, if any, and likewise overrides

the specification if the contract or order so states. All samples submitted by tenderers will be addressed to the Commanding Officer, No. 1 Stores Depot, unless instructions are given for the sample to be forwarded to the Air Ministry, or to some other stores depot, or for it to be addressed to the A.I.D. Test House. On receipt of a sample the C.O. of the depot will cause it to be handed to the Inspector-in-charge, A.I.D. Such samples will not be sent to the pattern room for sealing, but will be labelled by Kidbrooke Bond. The label bearing the words " Contractor's accepted sample in connection with Contract or Order No.....only ". The accepted sample will be retained in the Bond, if inspection of the supply is to be carried out there, or despatched to the appropriate A.I.D. bond, office or station, on instructions from headquarters. In general the accepted sample is included in the final delivery under the contract, when the label will be removed and the article passed into store. Samples which have been received from unsuccessful tenderers, and which have not been consumed by tests, are to be returned to the tenderers, through the C.O. of the depot, after the selection of a satisfactory tender has been made.

PROPRIETARY ARTICLES

1. The expression "proprietary article" denotes an article of proprietary design and manufacture which is ordered as such. It does not include articles which, although of a proprietary character, are submitted by suppliers as fulfilling the requirements of a drawing or specification.

2. *Proprietary articles ordered without stipulations.*—When a contract or local purchase order is placed in such a form that no stipulation is made as to quality or performance, e.g., "Lamps, cycle, Lucas No. 2", the supplying of such articles is an implied guarantee that they are the proprietor's standard article as described. *No inspection or test whatever is necessary on acceptance for service on articles so ordered except to see that they are complete and in good condition.*

3. *Proprietary articles ordered subject to stipulations.*—Sometimes articles of a proprietary nature are required, by the terms of the order, to fulfil any or all of the following conditions:—

- (i) To be within certain dimensional limits.
- (ii) To conform to a standard pattern, or to a previous delivery of like articles.
- (iii) To pass certain tests.

In all such instances inspection—other than for completeness and condition—is to be confined strictly to determining whether the articles comply with the stipulated requirements. No additional inspection or further test is admissible.

4. *Articles ordered to drawings and/or specifications.*—Where articles are ordered to drawings and/or specifications, inspection has for its object to verify that the drawings and/or specifications are complied with; and the fact that such articles may happen to be proprietary is an accidental circumstance that has no bearing on inspection.

5. Proprietary articles for use in aircraft and/or aero engines, the unsatisfactory functioning of which can affect airworthiness, should always be ordered in accordance with the requirements of para. 4, while proprietary articles of lesser importance for use on aircraft and/or aero engines can be ordered to the requirements of para. 3 (i), (ii) or (iii), whichever are applicable.

CONCESSIONS

1. A "Concession" is defined as permission to use a limited quantity of material, or a limited number of parts or components, already incorrectly produced or manufactured, and not strictly complying with specification, drawing and/or pattern. It must not be confused with a "modification" which permits of the introduction of an alteration in material or parts to be manufactured subsequently; nor must it be associated with the powers of discretion with which all Inspectors-in-charge are entrusted.

2. Authority for granting a concession to a manufacturer to utilize or deliver material or parts not strictly in accordance with specification, drawing and/or pattern, rests with D.A.I. The power to grant concessions is vested by D.A.I. in the Inspector-in-charge; it does not cover concessions which may affect the strength, functioning, or interchangeability of a part, and proposals for such concessions must be referred to headquarters for prior approval.

3. When doubtful material, parts or components are submitted to the Inspector-in-charge he will first decide whether the error is of such a nature as to allow him, under his discretionary powers, to accept the goods as substantially complying with specification, drawing and/or pattern. If so, he will not grant a concession, but will accept the goods and, where possible, stamp them with an A.I.D. stamp. Such goods may only be released under an A.I.D. release note, on which the extent of the departure is to be clearly stated.

If, however, the error is so great or so noticeable that the material, part or component obviously differs from the specification, drawing and/or pattern, but is in the Inspector's opinion still fit for service, he can only accept by granting a concession. When a concession is applied for by a firm other than the main contractor, the resident or supervising Inspector will submit the proposal to the Inspector-in-charge at the main contractor's works for concurrence before granting a concession.

4. (i) A.M. Form 864 is to be used for the granting of all concessions, as defined above.

(ii) The concession form will be made out in triplicate; the original is to be sent to the contractor, one copy retained by the Inspector granting the concession, and one copy forwarded to the Branch concerned, which will communicate with D. of C. when contract action is recommended. The headquarters copy of the concession form will be filed in the appropriate inspection file.

(iii) One concession only may be entered on each form. All forms must bear the signature of the Inspector-in-charge granting the concession.

(iv) Details of concessions will not be entered in log books ; an entry in the inspection record, quoting the reference of the concession form, will suffice. For engines, this record will be made on the headquarters copy of the test sheet.

5. It should be realized that the procedure outlined above is intended to cover a particular batch of material, parts or components already manufactured. Where it appears at all probable that a concession may tend to become permanent, semi-permanent, or frequent, it is important in order to ensure equal treatment for all concerned that full particulars be reported to the headquarters branch concerned so that appropriate action may be taken :—

(i) to ensure promulgation of any special interpretation of a specification or drawing ; or

(ii) to enable steps to be taken by the headquarters branch to have the relative specification and/or drawing revised ; or

(iii) to enable the same privilege as regards relaxation of requirements to be extended to all manufacturers as an interim measure, when it is thought likely that revision of the specification or drawing, as at (ii) above, may be a lengthy process.

ACCEPTANCE OF SUPPLIES

1. Supplies are not taken into R.A.F. service except under the certificate of a representative of D.A.I. and consequently the final inspection at least must be carried out by him and a certificate covering these supplies be rendered on Form 530. A.I.D. inspection instructions lay down certain processes and tests, which must be inspected or effected by an A.I.D. Inspector ; but with these exceptions the Inspector-in-charge, to whom inspection has been allocated, has wide discretion as to how much inspection is to be done by him or his staff. At resident stations all goods released, except complete aircraft and engines, are to be covered by an A.I.D. release note. At non-resident stations only those goods which have actually been inspected by A.I.D. are to be covered by an A.I.D. release note, all other goods not so inspected being covered by an approved firm's release note. Where a non-resident inspector makes a supervisory visit to a firm actively engaged on an Air Ministry contract or sub-contract, and carries out a supervisory check on a consignment which has been accepted by the firm's approved inspectional organization, the Supervising Inspector is to countersign the firm's approved release note, as an indication to the A.I.D. Inspector at the receiving station that no further check on this consignment is necessary.

2. Whenever an Air Ministry contract which stipulates delivery to a stores depot is allocated to an inspector other than the Inspector-in-charge at that depot, the former is to notify the contractor in writing that his inspection is a process one only and that the goods will be subject to a final inspection after delivery at the stores depot. A specimen " form letter " for use in this connection is as follows :—

" To :—.....
.....

Dear Sirs,

With reference to Contract/Order No.....placed with you by.....it has been arranged that process inspection will be carried out by my representative at your works. Please inform me when a visit can be made for this purpose. Final inspection will be made after delivery to.....

Inspection of any sub-contract orders placed by you in connection with the above must be arranged by you to the satisfaction of the Director of Aeronautical Inspection and it is suggested therefore that, before placing any sub-contract orders, you should communicate with this office.

Yours faithfully,

Inspector-in-charge, A.I.D., for
Director of Aeronautical Inspection."

ALLOCATION OF INSPECTION OF CONTRACTS

1. Except for certain supplies for D.W.B., see Section H, an A.I.D. Inspector-in-charge must not initiate or arrange for any inspection whatever unless and until he has received through authorized channels one or other of the following :—

(i) A copy of an Air Ministry contract or of an "Instruction to Proceed".

(ii) A copy of a R.A.F. local purchase order.

(iii) A copy of a sub-contract order sent to him "for action".

(iv) Explicit instruction from A.I.D. headquarters.

2. (i) As soon as a contract has been placed, in which D.A.I. is named as the inspecting authority, D. of C. supplies A.I.D. with two copies of the contract. One copy is for the use of the Inspector to whom inspection is allocated, and one for reference at headquarters. When the works at which the contract will be carried out is a resident A.I.D. station, D. of C. despatches the Inspector's copy direct to him and passes the other copy to A.I.D. headquarters. In all other instances both copies are passed to A.I.D. headquarters.

(ii) The allocation of inspection is decided at headquarters by the A.C.I. concerned, though it is evident that where the work is to be carried out at a resident station the allocation of inspection to the Inspector-in-charge at that station is virtually automatic.

(iii) Authority to institute inspection of a contract is conveyed to the Inspector-in-charge by A.M. Form 1277, to which is attached the Inspector's copy of the contract—unless this has already been sent direct as in (i)—together with all drawings and other documents, if any, needed for the purpose of inspection.

3. Receipt of authority to institute inspection of a contract is invariably to be acknowledged to A.I.D. headquarters by returning the printed receipt slip of A.M. Form 1277, whether the copy of the contract has been received from A.I.D. headquarters or directly from D. of C.

4. Where a contract is to be carried out at a resident station the inspection of the contract is to be allocated to the Inspector-in-charge. Where a contract stipulates delivery to a destination at which there is no resident A.I.D. Inspector, and inspection is to be carried out at a works where there is likewise no resident A.I.D. Inspector, inspection of the contract is to be allocated to the Inspector-in-charge responsible for the inspection or supervision of inspection at the works concerned (that is normally the Inspector-in-charge of an office).

5. Where a contract stipulating delivery to a resident station is to be carried out at works where there is no resident A.I.D. Inspector, inspection of the contract is to be allocated to the Inspector-in-charge (usually the Inspector-in-charge of an office) responsible for inspection or the supervision of inspection at the works concerned, *provided a definite advantage is gained by so doing*. At the same time that Form 1277 is sent to him, brief particulars of the contract are to be sent on A.M. Form 1284 to the Inspector-in-charge at the consignee station. If no definite advantage can be gained by inspecting before despatch (i.e., if no process inspection is involved and all A.I.D. inspection requirements can be fulfilled after delivery), final inspection is to be allocated to the Inspector-in-charge at the consignee station. Where inspection under this paragraph has been allocated to the Inspector-in-charge at an office, he is carefully to consider whether he can carry out inspection adequately with the staff at his disposal without prejudice to the efficiency of his normal duties. If he cannot do so, he is to refer the matter to headquarters for consideration by C.I.S.

6. Where the inspection of a contract subject to A.M. Form 705, full or modified, is allocated for inspection after delivery, headquarters are to notify the supervising Inspector on A.M. Form 1284 of the existence of the contract, detaching and destroying the tear-off slip of that form before despatch. The Inspector-in-charge to whom inspection has been allocated is then to inform the contractor by letter that any query arising in the course of the contract is to be referred to the supervising Inspector, quoting his address. A copy of this letter is to be sent at the same time to the supervising Inspector, who is to arrange a visit to the contractor's works during the earliest stages of the contract, in order to satisfy himself whether in fact the contractor does require guidance in the correct production of the articles. A copy of the report on any such visit is to be sent to the Inspector-in-charge to whom inspection has been allocated.

7. Two copies of all amendments to contract are provided by D. of C. for A.I.D. use under the same arrangements as are the copies of the original contract. When the contract is being carried out at an A.I.D. resident station, one of these copies is sent direct to the Inspector-in-charge by D. of C., but in all other instances one copy is to be sent by headquarters to the Inspector-in-charge to whom inspection has been allocated. In each instance notification of the issue of an amendment to contract will be by means of A.M. Form 1076.

8. On completion of inspection, the Inspector-in-charge to whom inspection was allocated is to return to headquarters the "completion" slip of A.M. Form 1277; and, where Form 1284 has been sent to the Inspector-in-charge at a R.A.F. stores depot, the latter is to notify headquarters the final completion of the contract by returning the "completion" slip of A.M. Form 1284.

**SPECIAL INSTRUCTIONS FOR ALLOCATION OF
INSPECTION OF SUPPLIES, REQUIRED FOR
EMBODIMENT LOAN**

1. Delivery of aircraft off Air Ministry contracts is at times retarded because of delay in issue of Embodiment Loans to the aircraft contractor. It follows that stores depots are dependent primarily on punctual delivery to them of the items required for issue and it is essential therefore that both D. of E. and D. of C. are furnished with advance information whether or not the delivery dates specified on contracts for these supplies are likely to be fulfilled. For the purpose of arresting delay the following procedure is to be followed.

2. D. of C. will place a special mark on all contracts which are intended specifically for embodiment loans. The A.I.D. headquarters branch concerned, having decided whether inspection shall be allocated before or after delivery, will proceed as follows :—

(i) Where the contract is to be inspected during manufacture, a letter will, in addition to A.M. Form 1277, be attached to the Inspector's copy of the contract, which will instruct him to render two forecasts, the first, three months before the first delivery date required under the contract, the second, one month prior to that date. Should the contract be for delivery in less than three months, the two forecasts are to be rendered to D.D.E. at proportionately shorter intervals. A special note is to be made on the A.M. Form 1277 to call the Inspector's attention to the accompanying letter.

(ii) Where inspection is to be after delivery, the Inspector to whom it is allocated will not be in a position to render such forecasts, and the branch will therefore instruct the Supervising Inspector responsible for the approved firm concerned, to render them. The same letter will be used, but in this instance it will be attached to A.M. Form 1284, which is to bear a special note calling attention to the letter. A copy of the contract is also to be attached to A.M. Form 1284, this copy being marked " for information only ".

3. These forecasts in duplicate will be rendered directly to D.D.E., on the tear-off slips appended to the letter.

ALLOCATION OF INSPECTION ON INSTRUCTIONS TO PROCEED

From time to time letters are issued by the D. of C. instructing contractors to proceed with work in advance of the placing of a definite contract. A copy of each such I.T.P. is passed to the A.I.D. branch concerned, so that they may ascertain whether it contains, or is accompanied by, sufficient information to enable inspection to be properly carried out. As soon as this requirement is fulfilled, instructions to inspect will be issued to the appropriate Inspector-in-charge, under the same procedure as is laid down for a contract in Leaflet D.9. No inspection is to be carried out until such instructions to inspect, or other special headquarters instructions, are received ; but, when such headquarters authority has been given, it will be in order for the Inspector-in-charge to clear Forms 530 for goods covered by the I.T.P. When a contract is issued in confirmation of an I.T.P. the Inspector-in-charge concerned will be notified by means of A.M. Form 1381. The completion-slip of A.M. Form 1277 will not be returned to headquarters unless the copy of the contract has been received and compared with the I.T.P.

ALLOCATION OF INSPECTION ON BEHALF OF DOMINION GOVERNMENTS

1. Certain contracts are placed by the Air Ministry on behalf of Dominion Governments who reimburse the Air Ministry on a percentage basis. Such contracts will be dealt with by A.I.D. exactly in the same way as an ordinary Air Ministry contract, except that all inspection must be carried out prior to despatch of the goods from the contractors' works and also that the branch allocating the inspection of the contracts is to notify I.G. of the instructions issued. I.G. must also be notified by the branch when the contract has been completed, in order that a claim may be rendered for repayment for these inspection services.

2. In this class of contract the Air Ministry is acting as agent for the Dominion Government concerned and therefore the A.I.D. must assume responsibility for checking quantities and inspecting the packing of the goods covered by the contract.

3. For this purpose the Inspector-in-charge will instruct the contractor to prepare for each packing case a packing note as laid down in A.P. 830 (Vol. I), and will follow the procedure laid down in that publication. His signature on the packing note will indicate the quantitative correctness of the consignment and its satisfactory packing, while his signature on the relevant Forms 530, to which copies of the packing notes will be attached, will be his certificate that the goods are correct to drawings and/or Specification.

4. Orders placed direct by Dominion Governments which require A.I.D. inspection will be inspected on instructions from headquarters. The head of the branch will pass the relevant inspection file to I.G. for notation. On completion of the order the Inspector-in-charge will forward one copy of A.M. Form 1295 with the goods, and will notify completion to headquarters, and also forward two copies of A.M. Form 1295. The branch concerned will forward a copy of A.M. Form 1295 to the Dominion Liaison Officer and pass the file to I.G. for recovery of the fees. In carrying out inspection on behalf of Dominion Governments, the detail of grade employed, time spent on inspection and travelling expenses incurred, is not to be forwarded to headquarters, unless called for when instructions to inspect are issued. In this class of order A.I.D. will be responsible for inspection only, and will not be concerned with checking quantities or supervising the packing of the goods unless specifically invited to do so, in such instances repayment fees will be charged accordingly.

5. Orders placed by Dominion Governments direct on approved firms will be subject to the firm's own inspection and A.I.D. will be concerned only with supervision for which no charge will be made.

6. The foregoing instructions as to inspection for Dominion Governments cover "works inspection" only. Any testing of materials, gauges and/or instruments undertaken by D.A.I. will form the subject of independent charges under the tariff laid down in A.P. No. 1226 "Testing of Materials, etc., at A.I.D. Test House".

INSPECTION OF NEW SUPPLIES AT STORES DEPOTS

1. All goods delivered to a R.A.F. stores depot under an Air Ministry contract or L.P.O. are to receive an A.I.D. final inspection before certification as fit for H.M. service.

2. Where the inspection of the contract has been placed with an inspector other than the Inspector-in-charge at a stores depot, this final inspection is to consist of :—

(i) A superficial examination to ensure that the goods are not damaged or deteriorated in any way and that they bear evidence of prior inspection.

(ii) An examination of the release note covering the goods, to ascertain the state of completeness and the competency of the previous inspection.

3. (i) When goods arrive at a stores depot and are covered by an A.I.D. release note, the release note is to be accepted without question unless final scrutiny of the goods—which process must be invariably carried out in accordance with para. 1—reveals any good reason for querying their acceptance.

(ii) Similarly, goods arriving at a stores depot covered by an approved firm's release note countersigned by A.I.D., are to be regarded as in (i) above.

(iii) Where a consignment of goods arrives covered by an approved firm's release note not countersigned by A.I.D., the Inspector-in-charge at the depot is to regard the firm's release note as a guide in deciding what degree of final inspection is necessary. If the goods have undergone some process the inspection of which is reserved to A.I.D., his action will depend on whether or not the nature of the work allows him to perform such inspection with his own resources. If he can do so, he will, and sentence the consignment accordingly, but he is to notify the appropriate inspector that the A.I.D. inspection which was allocated to him has not been vouched for and that he has, therefore, had to do it after delivery. A copy of each such notification is to be forwarded to headquarters. Where the goods are of such a nature that inspection in the finished state cannot be adequate, he is to inform the appropriate inspector that the consignment will be held in quarantine pending proper evidence of prior A.I.D. inspection ; and should such evidence not be produced within seven days, he is to report the whole matter to headquarters.

4. When making these final inspections, duplication of inspectional operations previously made and recorded in release notes is unnecessary.

5. Where inspection is allocated to the Inspector-in-charge at a stores depot, he is responsible that suitable arrangements are made for the inspection of the material used in the articles concerned.

6. When damage, deterioration or other defect is discovered during the inspection after delivery at a stores depot, and it may be reasonably assumed to have occurred or appeared subsequent to prior inspection, if any, the Inspector-in-charge at the stores depot may exercise his discretion as to acceptance or rejection. Should, however, a defect be discovered during inspection which appears to indicate a failure of prior inspection, that is, one which may be reasonably assumed to have been discoverable during such prior inspection, the Inspector-in-charge at the stores depot will proceed as laid down in Section N.

7. Should it subsequently be found that any goods previously inspected and accepted are defective in any way, due to negligence, faulty workmanship, etc., on the part of the contractor the following action is to be taken :—

(i) *By Inspector-in-charge at Stores Depot.*

(a) Report the matter to the civil assistant and accountant at the depot immediately the discovery is made.

(b) Telephone, telegraph, or by any other means promptly inform the headquarters branch responsible for the technical direction of the class of goods concerned.

(c) Proceed as laid down in Section N.

(ii) *By Headquarters.*

Immediately on receipt of the report by Inspector-in-charge stores depot the headquarters branch will notify the appropriate provisioning branch of D. of E.

These instructions are not intended to apply to any defect which can with any probability be attributed to the treatment of the goods subsequent to their arrival at the stores depot. The object is to ensure that, even though goods may have been paid for, the fact that such were actually faulty at the time of delivery shall not be allowed to escape official action. Urgency in reporting the matter immediately it is discovered is necessary in order that whenever possible payment for the goods or for deliveries of similar articles may be stopped.

8. With reference to para. 7, should the Inspector-in-charge at a stores depot be satisfied that there is sound reason for returning some or all of the suspected goods to the manufacturer for investigation of the defect, rather than for carrying out a full investigation locally, he may request the C.O. to

issue the suspected goods to the manufacturer on loan for investigation of the defect. In making a request to the C.O., the Inspector-in-charge is to quote the authority of A.M. letter 309044/34/E.9 dated 19th December, 1934. It is not necessary to refer the matter to A.I.D. headquarters before making the request to the C.O., but full information is to be sent to the supervising Inspector by the Inspector-in-charge at the stores depot.

INSPECTION OF TRIAL DELIVERIES AT STORES DEPOTS

1. Instances have occurred in which contractors have attempted, by means of a trial delivery, to replace the standard pattern governing the contract by a sample of their own. Under no conditions whatever is it admissible to constitute such trial delivery an "approved sample" governing further supplies under the same contract. The contractor has undertaken to supply to the stipulations of the contract, including specification, standard pattern and/or drawing, and no departure from these stipulations can be made or allowed except through D. of C. and by a formal "amendment to contract". The only legitimate purpose of a trial delivery is to ascertain whether, in the opinion of the A.I.D., the contractor is interpreting the contract correctly.

2. Any goods submitted as a trial delivery are to be examined by at least two A.I.D. representatives, one of whom is to be the Inspector-in-charge or his deputy. One or other of them *must personally see the goods*; the verdict of a junior, however well qualified, must not be taken.

3. A trial delivery or portion thereof must not be sealed, and labelling, if required, must be limited to the words "Trial delivery from Messrs.....accepted as conforming to the requirements of Contract No.....". The existence of a trial delivery thus identified does not in any way absolve the Inspector concerned from his primary duty of ensuring that further deliveries comply with contract; its use is confined to reference in the event of doubt as to whether a particular feature or property of the bulk supply has, or has not, been already regarded as admissible under the terms of the contract.

DELEGATION OF INSPECTION

1. (i) With certain recognized exceptions, D.A.I. is the inspecting authority for all supplies purchased by the Air Ministry, but he is authorized to delegate inspection where such a course is advisable. Such delegation of inspection may be either complete or partial.

(ii) Delegation of Inspection referred to in this leaflet must not be confused with delegation referred to in Inspection Instructions Nos. A.1 and E.100.

2. Heads of inspection divisions are empowered to delegate the whole inspection of a contract to other directorates of the Air Ministry or to other government departments, when such action is likely to secure more efficient inspection or overall economy, as for example, in the following instances:—

(i) The contract is for supplies of a new and experimental nature or the supplies are proprietary articles, being purchased in small quantities for experimental purposes.

(ii) Another government department has an inspection staff already in residence at the contractor's works.

(iii) The contract specifies delivery for inspection purposes to another government department.

(iv) The contract is placed with another government department.

(v) The contract is for meteorological supplies.

3. When inspection is delegated to or through a branch of the Air Ministry, the necessary action will be taken in a registered inspection file. Delegation of inspection to any authority or person outside the Air Ministry will be effected by the use of A.M. Form 1291.

4. In each instance, where delegation is effected, notification of the existence of the contract is to be sent by means of A.M. Form 1284 to the Inspector-in-charge at the consignee station, including the Chief Inspector, R.A.E., where delivery is to be made to that establishment. Notification of the existence of the contract is also to be sent to the A.I.D. Inspector (if any) responsible for supervising the manufacture of the goods.

5. Where A.I.D. responsibility covers the whole inspection up to and including final acceptance, partial inspection may be delegated by heads of branches to:—

(i) D.T.D.—when, by arrangement with the Air Ministry, contractors' flying tests on an aircraft are carried out at experimental establishments (i.e., Martlesham or Felixstowe). A.I.D. headquarters (I.A.2) will notify D.T.D. (usually the Chief Technical Officer at the

establishment concerned) in writing accordingly, and will also instruct the Inspector-in-charge at the contractor's works to advise the Chief Technical Officer, as soon as the inspection of the aircraft is completed, by means of the form letter, shown below. Delegation in this instance is usually confined to the witnessing of flights and the inspection of alterations and adjustments made to the aircraft during the trials, including the duplicate inspection of controls where necessary. A.I.D. personnel will invariably undertake all inspection operations up to and including the issue of the certificate of safety for flight. If an aircraft is delivered to an experimental establishment without having flown, the inspection of the erection will be undertaken by A.I.D. personnel sent there for the purpose. In the event of extensive alterations being found necessary during trials, the Chief Technical Officer may ask for the assistance of an Inspector, such applications will be passed for action to I.A.2.

“ Aircraft, type
Number
Contractor
A.M. contract
Further to this directorate's letter of.....
(date) A.M. Ref. No.....

authorizing the delegation of the inspection of the contractor's flying tests to you, I am to inform you that the inspection of the above-mentioned aircraft has been completed and that a Certificate of Safety for Flight has been issued. The contractor's trials may now be proceeded with. The contract clauses governing the flight tests are as follows :—

.....
.....
.....

Particulars of trials already made on this aircraft are shown in the enclosed inspection record. The design clearance for this aircraft is held by me, a copy of which is enclosed for your guidance as to the conditions of clearance.

The record of all flight tests, together with your observations, should be made in the inspection record and log book, and on completion of the tests to your satisfaction, a certificate to that effect is to be included in both the inspection record and log book.

The inspection record should be returned to me on the completion of the tests to enable me to certify the A.M. Forms 530, etc.

Signed
Inspector-in-charge, A.I.D.,
at..... ”

(ii) D.T.D. or D. of E.—when, immediately after receipt at a R.A.F. station, work is carried out on an aircraft, engine or aeronautical component, already inspected by A.I.D. before despatch, provided the work does not involve any internal disturbance of the engine, any cutting, drilling or heat-treatment, which would invalidate the previous A.I.D. inspection.

6. When experimental equipment requires protracted tests the attention of heads of divisions is called to A.M.R.D. Notice to Branches No. 98, which lays down a special procedure and refers to the desirability of the partial or complete delegation of inspection to D.T.D.

7. (i) When for any reason work carried out by contractors cannot be inspected at service units by A.I.D. staff, the necessary inspections will be carried out by the technical officers of the units concerned, inspection being delegated to such units by the head of the division concerned.

(ii) When delegation under this heading has been arranged, the Inspector-in-charge, A.I.D., at the contractor's works, is to forward to the C.O. of the station concerned :—

(a) all relevant drawings necessary for inspectional purposes ;

(b) a copy of the “ Explanatory statement covering the modifications”, which relates to the modification and indicates the method of application to airframes or engines already in service ;

(c) a covering letter which will contain full technical directions and all information required to enable the C.O. to effect a complete verification of the correctness of the work carried out by the contractor.

(iii) Occasions arise when the incorporation of a modification at service stations becomes necessary before the modification has been finally promulgated. In such instances the Inspector-in-charge, A.I.D., will consult with the R.T.O. to ensure that the drawings involved and the instructions relating to the incorporation of the modification are technically approved by, or on behalf of, D.T.D., and being satisfied on these matters will proceed as in sub-para. (ii) above. Before despatch, however, he will clearly mark such drawings, etc., with the following words :—

“ For use only in connection with the inspection of Modification No..... ”

8. (i) Where drawings are to be supplied by A.I.D. Inspectors in connection with para. 7, arrangements have been made for Inspectors-in-charge to obtain blue prints from the contractor, who will recover the cost from the Air Ministry, *see* sub-para. (v) below.

(ii) On receipt from headquarters of information that certain work is to be undertaken by the contractors' personnel at a R.A.F. station, and that inspection has been delegated to the unit concerned, the Inspector-in-charge is to ascertain what blue prints will be required for the particular contract, I.T.P. or amendment and to instruct the contractor in writing to supply him with the appropriate sets of blue prints.

(iii) The contractor will deliver the drawings to the Inspector with two copies of his advice note. Having despatched the drawings to the unit as laid down in para. 7, the Inspector-in-charge is to countersign both copies of the advice note, and forward them with a covering letter addressed to the Secretary, Air Ministry—For the attention of R.T.P. (Drawings Library).

(iv) In this covering letter the Inspector is to give the following particulars :—

(a) Number of contract, I.T.P., or amendment.

(b) Type of aircraft or engine on which work is to be done.

(c) Drawing numbers comprising the set or sets required.

(d) Number of sets supplied by contractor.

(e) R.A.F. stations to which the drawings have been supplied.

(f) R.A.F. units holding the aircraft or engines on which work is to be done.

(v) On receipt of the two copies of the contractor's advice note, payment will be made for the drawings against the general contract covering the supply of miscellaneous blue prints.

(vi) One copy of the advice note will be returned direct to the contractor, the second copy being retained in R.T.P. (Drawings Library) for record purposes.

(vii) It is emphasized that blue prints requisitioned by Inspectors-in-charge under this order are to be confined solely to meeting the requirements of para. 7.

**DELEGATION OF INSPECTION OF WORKS EXTRACTS
ON GOVERNMENT ESTABLISHMENTS**

1. Equipment supplied by the R.A.E., the Royal Arsenal, the Royal Small Arms Factory, and possibly other government workshops, is carried out on a "Works Extract". In all such extracts in which D.A.I. is named as inspecting authority, inspection will be delegated to the government inspection department which normally inspects the output of the establishment concerned.

2. Works extracts on the R.A.E. will be inspected by the Head Inspector, R.A.E. One copy only of each extract is received in the A.I.D., and this will be passed to the appropriate branch, which will deal with it as a contract; the Head Inspector, R.A.E., will receive his copy through C.S., R.A.E., and not from A.I.D.

3. (i) Works extracts on the C.S.O.F., Royal Arsenal, Woolwich, are placed on A.M. Form 1195. Four copies of these forms are received by the appropriate branch. The branch will deal with them as with a contract, but will delegate inspection to the Chief Inspector of Armaments, Woolwich, passing him three copies of A.M. Form 1195.

(ii) Works extracts on the Superintendent, Royal Small Arms Factory, Enfield, are also placed on A.M. Form 1195, but only two copies are received by the branch. Inspection will be delegated to the Chief Inspector of Small Arms, Enfield, to whom one copy of A.M. Form 1195 will be passed. Otherwise the procedure is the same as in sub-para. (i) above.

DESTRUCTION OR DAMAGE OF EQUIPMENT DURING INSPECTION

1. As a general principle, it is to be borne in mind that whilst an Inspector, before he approves and accepts any part, batch or consignment, is entitled to carry out any tests required to give proof that the parts submitted are suitable for such approval, he cannot proceed automatically with such tests as are not laid down in the contract itself, or are not definitely agreed to in detail by the contractor, but must, in the event of such omission and/or non-agreement by the contractor, refer the matter to headquarters for further instructions.

2. Inspectors-in-charge are reminded that tests involving damage to or actual destruction of the articles submitted may not normally be carried out unless such tests are included in the contract itself or the individual specifications attached to, or covered by, that contract.

3. It is frequently necessary, however, in the course of inspection, as in the case, say, of castings to section one or a number of parts representative of a batch, to provide the information and surety required as a basis for the acceptance of the batch.

4. Before proceeding with such tests, which must obviously scrap the part under test, irrespective of its condition as discovered in the course of the test, the Inspector will obtain the concurrence of the contractor in such a manner as to ensure that no subsequent claim for compensation for parts so destroyed shall be made by that contractor.

5. It may be pointed out to him that without such tests, involving damage or complete destruction, the Inspector is unable to accept the batch or consignment in question. If the contractor is still averse to the testing proposed, the matter must be referred through the usual channels to headquarters, with a report covering all particulars.

6. Care must be taken that articles are not damaged when applying A.I.D. process or approved stamps. It is further pointed out that, when marking as "A.I.D. rejected", Inspectors must take care that the articles are not damaged by such stamping or marking as to reduce their normal commercial value.

7. At R.A.F. stores depots the Inspector-in-charge is to act in accordance with the procedure laid down in A.P.830, Vol. I, when dealing with equipment which has to be tested to destruction or otherwise. He is not to communicate direct with contractors, but is to refer all such matters to the C.O. of the depot.

INSPECTION OF AERONAUTICAL SUB-CONTRACTS UNDER A.M. FORM 705

1. When a contractor who has accepted an Air Ministry contract for aeronautical supplies decides to sub-contract any portion of it—whether components, fittings or material—the A.I.D. Inspector to whom the contract has been allocated is responsible that the arrangements for inspection under the sub-contract are adequate. To empower him to carry out these duties suitable clauses have been embodied in the General Conditions of Contracts, A.M. Form 705. Where the inspection of a main contract has been allocated to and/or undertaken by the Head Inspector, R.A.E., he will undertake all the duties of an A.I.D. Inspector to whom inspection has been allocated. (*See also* Leaflet G.1.)

2. The distinction between the proportion of inspection that must be carried out by the contractor, and that which the A.I.D. Inspector is not allowed to delegate but must carry out with A.I.D. staff, is arrived at entirely on technical grounds, and is not affected whether the contractor manufactures the article in his own works or sub-contracts it. It follows that, in the case of every sub-contract, the A.I.D. Inspector is responsible :—

(i) for arranging A.I.D. inspection if any part of the inspection is such that it cannot be delegated ;

(ii) for satisfying himself that the contractor has made adequate arrangements to carry out that part of the inspection that ought to be delegated.

3. With reference to para. 2 (i), the normal policy is to carry out the necessary measure of inspection by A.I.D. staff after the goods have been delivered to the main contractor's works. In exceptional circumstances technical considerations may prevent the A.I.D. staff at the main contractor's works from thus carrying out their share of inspection after the goods have been delivered, and make it necessary for A.I.D. inspection to be carried out at the sub-contractor's works. It is, however, to be clearly understood that A.I.D. inspection at the sub-contractor's works may only be arranged when (i) the operation is one that cannot be delegated, (ii) technical considerations make it inadmissible for A.I.D. inspection to be made after delivery to the main contractor.

4. (i) With reference to para. 2 (ii) the A.I.D. Inspector may assume that adequate arrangements have been made, when the main contractor places his sub-contract order with an approved firm. The main contractor may only be permitted to place a sub-contract order with a non-approved

firm, when he can satisfy the A.I.D. Inspector that adequate arrangements have been made for the inspection of such sub-contract order, as regards dimensions, finish, processes and materials.

(ii) Whether the normal procedure is adopted or the main contractor is permitted to place a sub-contract order with a non-approved firm, the main contractor cannot absolve himself from his responsibility under the conditions of A.M. Form 705.

5. It is necessary that the approved arrangements for inspection (with regard to both A.I.D. and the contractor's inspection) be stated on each sub-contract order. Inspectors-in-charge should arrange to co-operate with the contractor's buyer, and to advise him in fixing the place and method of inspection in accordance with the principles laid down above.

6. To ensure uniformity, it is desirable that standard forms of wording should be employed in the inspection clauses in sub-contract orders. The following, *while not intended to exclude equivalent wordings which may be equally satisfactory*, will be found to meet the majority of situations that arise :—

(i) When a sub-contract order is placed with a firm whose works are an A.I.D. resident station, and whose own inspection is approved, all inspection will be carried out at the sub-contractor's works. Such orders should be endorsed : " Subject to inspection before despatch from your works. For instructions apply to your resident A.I.D. Inspector-in-charge ".

(ii) When a sub-contract order is placed with a firm which has its own approved inspection but is not an A.I.D. resident station, and A.I.D. inspection (if any) can be performed after delivery to the main contractor's works, the order will be inspected by the sub-contractor's approved staff, and should be endorsed : " Subject to inspection and release by your inspecting organization, approved by A.I.D."

7. In the exceptional circumstances in which the main contractor is permitted to place a sub-contract order with a non-approved firm, it is impossible to use any standard form of wording. Full details of the agreed inspection arrangements must appear on the sub-contract order. Responsibility for inspection rests with the main contractor and in no circumstance may it be carried out by the A.I.D. without the prior approval of A.I.D. headquarters.

8. In addition to the foregoing endorsements defining the place and extent of inspection, each and every aeronautical sub-contract order must bear the following clause :—

" This order is subject to the General Conditions of Aeronautical Contracts (A.M. Form 705) so far as these Conditions are applicable."

9. (i) When for any reason A.I.D. inspection is to be carried out at a sub-contractor's works the Inspector-in-charge will forward a copy of the sub-contract order to the Inspector-in-charge of the A.I.D. office or station concerned. The A.I.D. Inspector forwarding the order is responsible that :—

(a) the copy of the sub-contract order sent to the A.I.D. office or resident station is accompanied by a covering letter notifying exactly what inspection is required ;

(b) the receiving Inspector is in possession of all drawings and schedules, and full reference to, and/or extracts from, all relevant specifications required for the efficient performance of the inspection demanded ;

(c) the designation of the A.I.D. Inspector who will be responsible for inspection at the sub-contractor's works is stated in the original of the order.

(ii) In order to enable Inspectors to endorse in a regular manner every sub-contract order they transmit, a gummed slip is provided, which is to be invariably used for this purpose. This slip reads as follows :—

“The attached order has been checked, found correct, and is passed to you for action as stated in accompanying letter ref.....

Dated.....

Signed

Inspector-in-charge, A.I.D., at.....

.....

Date..... ”

In affixing the slip, care is to be taken that it does not render any part of the order invisible or illegible.

**INSPECTION OF AERONAUTICAL SUB-CONTRACTS UNDER
A.M. FORM 705 (MODIFIED)**

1. Where a contractor who has accepted an Air Ministry contract to the conditions of A.M. Form 705 (modified) decides to sub-contract any portion of it, the instructions laid down in Leaflet E.1 are applicable generally, but certain departures are authorized, as detailed below.

2. By the conditions of A.M. Form 705 (modified) responsibility for inspection of manufacturing processes and of details rests with A.I.D. Consequently, no authority from headquarters is required before the main contractor can place sub-contract orders with non-approved firms, the sub-contractor being responsible only for the testing of the material used.

3. Since the sub-contractor may not necessarily be acquainted with the conditions of A.M. Form 705, it is obvious that sub-contract orders must state clearly how, when and by whom inspection of such orders is to be performed.

4. On the sub-contract order must also be stated the extent of the sub-contractor's liability to inspect the material used by him, which liability must be expressed in the precise wording employed in the contract itself.

5. When any A.I.D. inspection is to be carried out at the sub-contractor's works, the A.I.D. Inspector-in-charge at the main contractor's works is responsible that the sub-contract order is properly endorsed in accordance with the relevant paragraphs of Leaflet E.1 before a copy is sent to Inspector-in-charge of the A.I.D. office or station concerned.

6. Some measure of A.I.D. inspection at the sub-contractor's works will generally be necessary, even though the goods can be fully inspected by A.I.D. after delivery, since it will usually be necessary to ensure that the material used in the sub-contract has been batched and tested.

INSPECTION OF NON-AERONAUTICAL SUB-CONTRACTS

1. Contracts for ground equipment and other non-aeronautical supplies are normally placed to the conditions of A.M. Form 659, which do not impose upon the contractor any responsibility for inspection or for the testing of materials. Should the contractor, who has accepted such a contract, decide to sub-let any part of it, the same conditions apply to such sub-contracts.

2. In inspecting any goods in connection with a contract placed to the conditions of A.M. Form 659, D.A.I. is responsible for the correctness of all materials used, for the inspection of all detail parts and for any functional tests required by the relevant drawings and/or specifications, whether the contract has been placed with an approved firm or one that is not approved, *see also* Leaflet D.8.

3. This direct responsibility extends to all sub-contracts placed by the main contractor. It is therefore essential that, where for technical reasons the inspection of sub-contracts is placed with an A.I.D. Inspector, other than the Inspector to whom the contract has been allocated, the copy of the sub-contract order sent to him should be accompanied by all the information, drawings, etc., necessary for him to carry out effective inspection of the sub-contract. No repayment can be claimed for any A.I.D. inspection in connection with a contract or sub-contract under the conditions of A.M. Form 659.

4. Where the sub-contract is for the supply of a proprietary article, it may be accepted as the proprietor's standard article, provided the stipulations of the sub-contract permit, *see* Leaflet D.6.

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INSPECTION OF SUB-CONTRACTS PLACED BY CIVIL CONSTRUCTORS

Sub-contracts placed by civil constructors.—A.I.D. inspection of sub-contracts placed otherwise than in connection with Air Ministry contracts will only be undertaken on the basis of repayment. The procedure for arranging inspection on repayment is laid down in Leaflet F.1.

INSPECTION ON REPAYMENT

1. Apart from inspection on behalf of Dominion Governments (*see* Leaflet D.12) the policy of the A.I.D. is to discourage inspection on repayment, and to regard it as a last resource when all efforts to arrange inspection by the manufacturer's own organization have failed. When, however, special circumstances justify A.I.D. inspection on a repayment basis, it may be undertaken.

2. All arrangements for A.I.D. inspection on repayment are to be dealt with by the appropriate branches at headquarters. An outstation Inspector-in-charge who is approached by any person or firm with a request to undertake such inspection is to refer the applicant to headquarters. Where applicable the following information is to be supplied, the dry weight of an engine, the tare weight of an aircraft, or the total value of an order for spare parts, accessories, &c.

3. The basis of charges for inspection on repayment is as follows :—

(i) Inspection covering construction and test of a complete aero engine—4s. per 10 lbs. up to 400 lbs. dry weight with the addition of 1s. per 1 lb. above 400 lbs.

(ii) Inspection covering construction and test of a complete aircraft—for the first 1,000 lbs. tare weight £12, and for each additional 200 lbs. £5, plus cost of inspection of the engine as in (i) above if not already paid.

(iii) Inspection covering construction and test of spare parts, accessories, instruments, &c.—3 per cent. of contract or order price unless covered by (v) below.

(iv) For special inspection services or tests on any of the above (unless covered by (v) below), where the A.I.D. services are not equivalent to those required for new articles delivered to R.A.F.—Inspector's time plus 100 per cent. plus travelling expenses.

(v) For articles sent to the A.I.D. Test House—usual charges in accordance with Air Publication 1226.

4. In the event of headquarters agreeing to inspect on repayment, action is to be taken (except in the case of Dominion Governments) to obtain the signed agreement of the applicant on A.M. Form 1376. Instructions to inspect will then be given to the Inspector-in-charge concerned, and the file passed to I.G. for notation.

Where it is known or suspected that the articles to be inspected are required by or for a foreign government the concurrence of S.8 is to be obtained as soon as the application reaches headquarters.

Normally inspection on repayment will be carried out under para. 3 (i), (ii) or (iii). Where, however, inspection is to be carried out under para. 3 (iv) the instructions to inspect will call for a record of the actual time spent, the grade or grades employed and any travelling expenses incurred directly in connection with the inspection.

5. Whenever inspection on repayment is to be carried out, A.M. Form 1295 (Certificate of Inspection) is to be used instead of A.M. Forms 1138 or 1138A (A.I.D. release notes). Immediately inspection is completed Inspectors-in-charge will notify headquarters and forward two copies of A.M. Form 1295 and also, when called for, a record of time spent, etc. They will forward one copy of A.M. Form 1295 with the goods as an advice note. The headquarters branch will pass the relevant inspection file to I.G. for recovery of the inspection charges and will forward a copy of A.M. Form 1295 to the firm who applied for the inspection to be carried out.

6. Instructions regarding inspection on behalf of Dominion Governments is laid down in Leaflet D.12.

INSPECTION AT R.A.E.

1. The D.A.I. is responsible :—

(i) for the inspection of all aeronautical supplies to the R.A.E. ;

(ii) for the inspection of all articles manufactured at the R.A.E. for use by Royal Air Force.

D.A.I. has approved the R.A.E. inspection department as competent to carry out these duties, and therefore delegates them to the Head Inspector, R.A.E., who, however, is working under A.I.D. supervision while carrying out this portion of his duties, his position in respect of new supplies being in effect equivalent to that of the A.I.D. Inspector at R.A.F. stores dépôts.

2. The procedure for inspection of incoming articles is as follows :—

(i) *Goods obtained by C.S., R.A.E., by requisition on R.A.F. stores dépôt.*—One copy of each requisition will be passed to the A.I.D. Inspector-in-charge at the dépôt concerned, who will then arrange A.I.D. inspection before issue, and will forward with the goods the usual A.I.D. release note.

(ii) *Goods purchased by C.S., R.A.E., by L.P.O.*—These L.P.O.'s should be treated exactly as though they were contractors' sub-contract orders. The procedure whereby arrangements are made for the inspection of such sub-contract orders is fully detailed in Section E, and will be applied for the inspection of R.A.E. L.P.O.'s. The Head Inspector, R.A.E., will carry out the duties laid down for the A.I.D. Inspector at the main contractor's works, will arrange with the purchasing department, R.A.E., that a suitable inspection clause is included in each L.P.O., and will send a copy of each L.P.O. to the A.I.D. outstation inspector concerned as laid down in Section E.

(iii) *Goods purchased for C.S., R.A.E., by Contract.*—Each requisition will be sent by C.S., R.A.E. to A.I.D. headquarters, and will include the standard inspection clause, *i.e.*, that inspection is to be carried out by D.A.I. Should D.A.I. decide that inspection is to be made after delivery, the branch of the A.I.D. dealing with the contract in question will issue the usual instructions to inspect to the Head Inspector, R.A.E., exactly as they would were he an A.I.D. resident inspector.

(iv) In cases (ii) and (iii), where the whole of the inspection must be done after delivery, the Head Inspector, R.A.E., will give the final decision (applying for a ruling

to A.I.D. headquarters if he is in any way in doubt), and can on his own authority reject the goods and issue instructions for their return to the suppliers.

(v) In case (i), or in cases (ii) and (iii) where inspection has been made before delivery, the Head Inspector will still be responsible for seeing that the goods have not been damaged or have not deteriorated in transit, and, should he then discover defects, will communicate with the appropriate branch of the A.I.D. headquarters before giving a final decision on the articles in question.

(vi) It is appreciated that, since the majority of the goods required at R.A.E. are to be used for experimental and test purposes, they must be strictly in accordance with specification and drawing requirements, and that goods which would be accepted under a "concession" would not in this case be suitable, although they might normally be so passed as fit for R.A.F. service. In such instances the C.S., R.A.E., will endorse his indent, L.P.O., or requisition with the words: "To be specially selected for experimental use," and any A.I.D. Inspector examining such goods outside the R.A.E. will take steps to ensure that no concessions are granted, and that the articles have been specially selected as in every way complying with specification requirements.

(vii) Further, in certain instances the C.S., R.A.E., may require articles for experimental purposes to specially close limits. In such instances these special requirements will be fully detailed on the indent, L.P.O. or requisition, and must be exactly complied with by all Inspectors concerned.

3. Where inspection of an Air Ministry contract has been delegated to and/or is being undertaken by the Head Inspector, R.A.E., the procedure for dealing with sub-contract orders, issued by the main contractor, will be as follows:—

(i) C.S., R.A.E., will undertake all the duties of the A.I.D. Inspector to whom inspection has been allocated, as detailed in Section E.

(ii) C.S., R.A.E., will inform the main contractor that copies of all sub-contract orders issued in connection with the *particular* contract are to be referred to the Royal Aircraft Establishment for action.

(iii) When the measure of inspection necessary cannot be undertaken by C.S., R.A.E., after delivery of the sub-contract order he will, if A.I.D. assistance is required, send a request to the appropriate A.I.D. Office to undertake inspection, and accompany this with a copy of the relevant sub-contract order and any documents, drawings, specifications, technical information or other inspection particulars required.

(iv) Unless and until C.S., R.A.E., invites an Office to undertake inspection of any sub-contract order, no A.I.D. action whatsoever is to be taken.

4. (i) The procedure for inspecting goods delivered by R.A.E. to R.A.F. units will be the same as that laid down for the guidance of A.I.D. Inspectors-in-charge at outstations, with the exception that the R.A.E. release note will be used instead of the A.I.D. release note. In such instances the R.A.E. release note will, however, be used strictly in accordance with the instructions laid down in Section K and will be signed by the Head Inspector, R.A.E., "For D.A.I." It should be particularly noticed that an R.A.E. release note must accompany every delivery to any Service unit.

(ii) All L.P.O.'s placed by the C.S., R.A.E., for aeronautical supplies will bear an endorsement bringing them under the conditions of A.M. Form 705 (General Conditions of Aeronautical Contracts).

5. (i) The Head Inspector, R.A.E., will similarly act as an A.I.D. Inspector-in-charge so far as the signing of Forms 530 is concerned. He will sign the Inspector's certificate at the left-hand corner of these forms "For D.A.I." and will comply with the A.I.D. instructions as set out in Section K with reference to Forms 530.

(ii) The Head Inspector, R.A.E., will be technically controlled by the branches of A.I.D. headquarters in so far as the duties delegated to him by D.A.I. are concerned. He will be entitled to use the A.I.D. "concession" procedure as set out in Leaflet D.7, and will receive copies of A.I.D. Orders and Inspection Instructions as though he were an Inspector-in-charge of an A.I.D. outstation.

INSPECTION OF SUPPLIES FOR D.W.B.

1. Inspection is carried out by A.I.D. on certain classes of supplies for D.W.B. except where that directorate reserves to itself, wholly or in part, the inspection of a particular contract or order. Inspection of supplies may be undertaken, on request from D.W.B., where goods are for direct shipment overseas.

2. D.W.B. supplies are obtained in one or other of the following ways :—

- (i) Under an Air Ministry " term contract ".
- (ii) Under a War Office " term contract ", from which D.W.B. may demand.
- (iii) Under an Air Ministry contract calling for delivery by a fixed date.
- (iv) Under an Air Ministry " works contract ".

3. *Term contracts* as at (i) and (ii) above are normally placed for a period of one year. The existence of such a contract does not in itself constitute authority for the contractor to deliver any goods whatever ; such authority is conveyed by the issue of a demand on A.M. Form 482. On receipt of such a demand the contractor prepares the goods for inspection. The inspector's copy of a term contract will be issued at the outset to the Inspector-in-charge of the appropriate office or station, and where possible will be accompanied by all relevant information to enable inspection to be properly carried out, or by a letter stating that any missing information will follow. The Inspector-in-charge is to notify the contractor that inspection will be carried out at the works, and to request the contractor to inform him whenever a demand is received ; this is necessary because in some instances W. & B. local officers are empowered to demand direct.

4. The inspectional copies of demands are normally sent direct to the Inspector-in-charge, A.I.D., concerned, by W. & B. officials at home stations, but copies of demands from overseas stations are forwarded through A.I.D. headquarters. Frequently these inspectional copies of demands, particularly those from overseas, may reach the A.I.D. later than the contractor receives the original demand. In order to avoid delay in such instances, the Inspector-in-charge may proceed with the inspection and release of the goods on such demands, provided that he sees the original demand, drawing, &c., held by the contractor and that he endorses the relevant release notes accordingly. Should the inspectional copies of demands from home stations not arrive before the demand

is completed, the Inspector-in-charge is to take the matter up with the W. & B. official concerned. The non-receipt of inspectional copies of demands from overseas is to be reported by the Inspector-in-charge to A.I.D. headquarters, where the matter will be investigated.

5. *Fixed-date contracts* under (iii) of para. 2 will be dealt with generally as for D. of E. supplies, except as to documentation as laid down in para. 7. When, however, such a contract is for direct shipment overseas, the date stipulated for completion is of vital importance, since shipping space will have been provisionally reserved, and it is also possible that some other contract—say for erection of a building—may be prejudiced if the goods are overdue. If, therefore, the goods are ready, inspection must be carried out in such time as not to risk interfering with despatch by the specified date. Further, D.W.B. is dependent on the A.I.D. Inspector to ascertain whether or not despatch will be punctual. Accordingly, when issuing the inspector's copy of each such contract, the headquarters branch is to name a date, prior to that specified for despatch, at which progress is to be reported; this "date for report" will be approximately one week ahead of the specified despatch for each four weeks' duration of contract. On the "date for report" the Inspector-in-charge is to write directly to W.B.4(b), Air Ministry, stating whether or not he expects the contract date to be kept, and if not, what delay he estimates, giving also, where possible, the cause of the failure. A copy of each such report is to be sent at the same time to the A.I.D. branch which issued the contract, and should the copy not come to hand within reasonable posting time after the date for report, the branch is to send a written reminder to the Inspector-in-charge.

6. *Works contracts* under (iv) of para. 2 are for the construction of buildings, &c., for R.A.F. stations. The contract as a whole will be subject to inspection by D.W.B., but A.I.D. may be called on to inspect steelwork, or other parts of the contract, during manufacture. Where this is arranged from D.W.B. headquarters, the necessary instructions, copies of documents, &c., will be issued by the A.I.D. branch concerned. The superintending W. & B. engineer is also empowered to communicate directly with the appropriate A.I.D. office requesting in writing that inspection of certain materials be carried out at the works; he will then be responsible for furnishing all necessary particulars. Such requests will be formally confirmed from A.I.D. headquarters by the issue of A.M. Form 1277 on receipt from the superintending engineer of a copy of his letter to the A.I.D. office; but the latter is to take inspectional action without awaiting the confirmation.

7. *Releasing of supplies for D.W.B.*—Forms 530 are not used in connection with D.W.B. supplies, and the corresponding D.W.B. documents will not be signed or certified by A.I.D.

All A.I.D. documentation will be by release note. On completion of inspection, performed under instructions from headquarters, A.I.D. release notes (A.M. Form 1138) will be prepared in triplicate, two copies normally being sent to the A.I.D. branch issuing the contract and the third retained by the Inspector. The branch will pass one copy of the release note to W.B.4(b) for information, filing the other in the inspection file. Where inspection is carried out at the direct request of a superintending engineer, release will be to him, and no action need be taken with headquarters. Whenever possible, the whole of the goods covered by a fixed-date contract, or by any one demand under a term contract, should be released at the same time and on one set of release notes, and should form one consignment unless the contract itself stipulates otherwise. Headquarters authority will be required for any departure from this rule. Except where such departure has been sanctioned, the receipt of a release note will be taken as evidence that inspection has been completed for the whole contract or demand, and D.W.B. will issue shipping instructions to the contractor; the last column of the release note is, however, invariably to be filled in. Unless specially instructed by the terms of the contract or otherwise, the concern of the A.I.D. Inspector with the goods ceases on their release by him. Normally he is not required to interest himself in their packing or shipment.

8. *Limitation of inspection to manufacturers' works.*—A.I.D. inspection of D.W.B. supplies is restricted to the works (including sub-contractors' works). In no circumstances, except on express orders from headquarters, is it allowable for any A.I.D. representative to visit the actual sites at which constructional contracts for D.W.B. are in progress.

INSPECTION OF LOCAL PURCHASE ORDERS

1. Copies of L.P.O.'s placed by R.A.F. stores dépôts and A.M. establishments are handed to the responsible A.I.D. Inspector-in-charge, who is to make the necessary arrangements for adequate inspection, reporting to headquarters whenever such arrangements involve any measure of A.I.D. inspection at works.

2. When L.P.O.'s are placed by P.A. for Ad. on behalf of D.T.D. or D.S.R., instructions will be issued from headquarters to the Inspector-in-charge concerned, if any A.I.D. action is required.

3. (i) When the authorities at a R.A.F. stores dépôt intend to place a L.P.O. for delivery directly to a destination other than that (or another) stores dépôt, they will consult the Inspector-in-charge, A.I.D., at the dépôt as to the inspection clause to be inserted in the invitation to tender.

(ii) In recommending a suitable inspection clause, Inspectors-in-charge at stores dépôts will be guided by the following considerations :—

(a) Where the destination is abroad, or it is proposed to place the order F.O.R. or ex works, inspection must be carried out at the works by the appropriate A.I.D. office, irrespective of the nature of the goods.

(b) In all instances in which inspection cannot be efficiently carried out after the goods are completed, inspection must be carried out at the works by the appropriate A.I.D. office apart from any consideration as to the place of delivery.

(c) Even where the goods would be capable of adequate inspection after delivery, inspection by A.I.D. at the works is still the rule. As a special exception, however, the final inspection of articles which are of so simple a nature that final inspection consists merely in a visual scrutiny, may be delegated to the consignee unit by express consent of its Commanding Officer. It will be clear from (ii) (a) above that this applies solely to home units.

(iii) When the order has been placed, the provisions of para. 1 are to be observed.

FUNCTIONS OF RELEASE NOTES

1. A release note is a document to be used for conveying the extent of inspection which has been made on goods prior to despatch to A.I.D. or other inspectional organization. A.M. Form 1138 is to be used when all inspection other than "final" has been carried out; but where any measure of further inspection other than for damage in transit remains to be carried out after delivery, A.M. Form 1138A is to be used. This latter is specially printed in red. Normally, release notes should be used to cover all goods which have been inspected either in part or wholly previous to delivery, with the exception of complete aircraft and engines, release notes for which are not required since the inspection is covered by the certificates inserted in the relevant log books.

2. Except for complete aircraft or engines a release note must invariably cover the transfer of goods from one inspectional organization to another. The only authorised release notes are the A.I.D. Release Notes, A.M. Form 1138 and A.M. Form 1138A described in para. 1, and those issued by firms with approved inspection organizations. All release notes issued by approved firms bear the authority reference number under which the approval is given. In certain instances of inspection carried out on repayment, release notes will not be used. Details of the documentation to be adopted in these special instances are laid down in Leaflet F.1.

A.I.D. RELEASE NOTES

1. A.I.D. release notes are to be prepared in triplicate, and each set of three is to be given a reference number which must be placed in the space marked "Release Note Number". Each A.I.D. release note is to relate to one contract or order only.

2. For deliveries off a direct A.M. contract, the reference of the relevant Form 530 must always be inserted so as to ensure subsequent correlation. In release notes covering deliveries off sub-contracts this space will be left blank. The remaining entries in the heading of A.M. Form 1138 are self-explanatory.

3. The following instructions are to be carefully followed in completing the body of the release note :—

Column I. "Identification."—This column is provided for the insertion of special identification markings, such as serial numbers of components, firms' trade marks, &c. Where identification marks are known by the Inspectors to have been placed on packages, these should be quoted in this column. Part numbers and cast numbers are provided for in other columns, and are not to be entered in the "Identification" column.

Column II. "Part Numbers, &c."—Where the article released has a part number, this is invariably to be quoted. Goods which have no part numbers must be given a sufficiently clear description to permit of prompt recognition.

Column III. "Approximate Quantity."—This column is provided as a general safeguard against the despatch of quantities appreciably exceeding those for which the Inspector has given authority for release.

Column IV. "Extent of Inspection, &c."—It is of vital importance that the exact degree of inspection which has been effected prior to release be clearly and explicitly defined. The whole value of a release note is lost if this information is incorrect or incomplete. Remarks as to any divergence from drawings or specifications which has been observed but considered not to render the goods unacceptable are of special value: where such divergencies have been authorised as concessions, this fact should be stated.

Column V. "Analysis."—Where heat-treatment is to be carried out after delivery, it is essential that the analysis be given in full detail. Details of analysis are also to be given when releasing brazing compounds and solder.

Note.—Details of heat-treatment of metallic materials hitherto included in the release note are no longer inserted therein. Such information is already embodied in the Materials

Test Report (which may be compiled and provided by the A.I.D. itself or by the supplier, checked by A.I.D.). A copy of this test report will be attached to the inspection copy of the release note.

Column VI. "Cast Number."—The value of this information lies in its constituting a precaution against the mixing of consignments.

Column VII. "Order Complete."—This column provides information which is in all cases available to the releasing Inspector and must never be omitted.

4. For deliveries to R.A.F. stores dépôts from A.I.D. resident stations, all A.I.D. release notes must be signed by the Inspector-in-charge or acting Inspector-in-charge. When such signature is that of an assistant Inspector, or senior, it enables Forms 530 to be cleared by a chief examiner's signature at the stores dépôt.

5. A.I.D. release notes are always to be prepared at the works on completion of inspection and their distribution is to be as follows :—

(i) The first copy is to be retained by the issuing A.I.D. representative for file purposes.

(ii) The second copy is to be handed to the contractor for transmission to the consignee. This copy should be despatched by the contractor or sub-contractor and not by the A.I.D.

(iii) The third copy is to be forwarded by post to the Inspector-in-charge at the receiving end. If the receiving end is not a resident A.I.D. station or bond, it should be addressed to the Inspector-in-charge controlling the receiving station, excepting deliveries to R.A.F. units (other than stores dépôts) in respect of which no third copy is required. No delay should be incurred in despatching release notes, as it is essential that this copy should arrive either before or at the same time as the goods arrive at the consignee's works.

RELEASE NOTES ISSUED BY APPROVED FIRMS

1. All release notes issued by approved firms should bear the heading in bold type, "Release Note". In the heading should also be embodied the works address, as given in the letter of approval, and the reference number of the authority under which that approval was given.

2. These release notes are to be prepared in quadruplicate, each set of four bearing the same serial identification number, preferably printed.

3. In addition to the printed information given in para. 1, each release note must contain the following :—

- (i) Name and address of consignee.
- (ii) Air Ministry contract, sub-contract or customer's order number.
- (iii) Description of the goods.
- (iv) Quantity.
- (v) Test report reference.
- (vi) Specification number.
- (vii) Identification marks on goods or packages.
- (viii) A certificate to the effect that the goods detailed on the release note have been inspected, and are in accordance with the requirements of the order, the drawings and specifications therein and with the general requirements of the Director of Aeronautical Inspection.

4. Release notes issued by approved firms are to be distributed as follows :—

- (i) Original to the consignee.
- (ii) One copy to the Inspector-in-charge, A.I.D., at the consignee's end.
- (iii) One copy to the A.I.D. Inspector, who supervises the issuing firm's inspectional organization.
- (iv) One copy for retention in the issuing firm's records.

5. Where an Air Ministry contract or sub-contract is placed with a firm, at whose works there is no resident A.I.D. Inspector and the inspection of the contract has been allocated to the supervising A.I.D. Inspector, such inspection is to be certified by means of an A.I.D. release note and not by the counter-signature of the approved firm's release note; but where inspection has not been allocated to a supervising A.I.D. Inspector and a supervisory visit happens to coincide with the firm's inspection of a consignment under a contract, he will countersign the approved firm's release note, if he makes his supervisory check in that consignment.

Cancelled by 90.29

6. There is no objection to an approved firm using its own release notes to cover its own supplies to a foreign customer, provided always that copies of the release notes are sent to the supervising inspector, and that the firm's own inspection department is operating under A.I.D. normal supervision whilst such inspection is being carried out. In every instance, however, the certificate on the release notes is to be amended by the deletion of the reference to the A.N.D., A.M. Form 705, and the Director of Aeronautical Inspection.

As an alternative, a special series of release notes may be printed and distributed by an approved firm to cover the procedure referred to above. Copies of these release notes will not be required by the supervising A.I.D. inspector. The special series of release notes must have identification numbers entirely independent of those in the standard series.

7. Where parts are delivered for incorporation in aircraft on the British register and holding a British certificate of airworthiness, the standard series of release notes are to be used.

Amended by 19029.

A.P. 1455
Leaflet K.4

CONTRACTORS' ADVICE AND INSPECTION NOTES

1. The inspection certificate on the "Contractor's Advice and Inspection Note" (Form 530) forms, in conjunction with the storeholder's certificate, the authority on which the contractor, having fulfilled his contract obligations, is entitled to payment. It cannot, therefore, be signed until *final* inspection has been carried out. The majority of contracts stipulate delivery to a R.A.F. stores depôt. On any such contract, the "final" inspection can be made only after delivery, and no inspection which takes place prior to delivery can be classed as "final" however completely the goods may be actually examined at that stage. Certification of the Forms 530 must consequently be left to the A.I.D. at the depôt.

2. The governing principle is that the Forms 530 are to be certified by the A.I.D. Inspector who is the *last* to inspect the goods. The application of this basic rule will enable A.I.D. Inspectors to deal with cases in which the delivery arrangements are exceptional, such as:—

- (i) Delivery "ex-works".
- (ii) Delivery "F.O.R." or "F.O.B."
- (iii) Delivery to a R.A.F. unit which is not an A.I.D. resident station.
- (iv) Delivery to another contractor.

3. Where process or intermediate inspection is carried out at a different place from final inspection, the Inspector responsible for the intermediate inspection must not, in any circumstances, certify the Forms 530. In all such instances, even when the article is completed and fully inspected before despatch, the Inspector will cover delivery of the goods by a release note, as laid down in Leaflets K.2 and K.3. The Inspector who certifies Forms 530 for goods which have been thus released to him will enter the reference of the relevant release note on his file copy of the Form 530.

4. The arrangements for the rendering of Forms 530 by contractors provide a copy for retention by the A.I.D. This copy is to be retained by the Inspector-in-charge responsible for certification.

5. In general, Forms 530 must be certified by an A.I.D. representative holding the rank of assistant inspector or higher; but the power of certifying is given to a chief examiner when deputed to take the place of an absent senior. In addition, chief examiners stationed at R.A.F. stores depôts are given special power to certify Forms 530 for goods already vouched for by an A.I.D. release note as having been fully inspected. Further, chief examiners and members of lower

technical grades, when appointed Inspectors-in-charge of resident stations or groups of stations, are empowered to certify Forms 530 for goods when they finally inspect.

6. (i) For work carried out under "experimental" contracts (each copy of which is so marked) the Forms 530 will be certified both by a representative of D.A.I. and by a representative of D.T.D. or D.S.R., as the case may be, D.A.I.'s representative being responsible solely for materials and workmanship. For this purpose the following special certificate is to be substituted, on all copies, for the printed inspection certificate :—

" Certified that the above supplies have been examined and found suitable for R.A.F. service in so far as materials and workmanship are concerned.

Date..... (Signed).....
for D.A.I."

" Certified that the above supplies are to the satisfaction of the Director { Technical Development.
Scientific Research.

Date..... (Signed).....
for { D.T.D.
D.S.R."

(ii) Whenever Forms 530 are certified as directed in (i) by an Inspector-in-charge at a station where there is a R.T.O., the forms, after the Inspector has certified them, are to be handed to the R.T.O. for completion by D.T.D. or D.S.R., as the case may be. Similarly, where the Inspector is himself authorised to act as D.T.D.'s representative, he will, after certifying the forms as Inspector-in-charge in the manner prescribed, forward them to the Secretary, Air Ministry, marked " for the attention of D.T.D. (or D.S.R.)"

7. When Forms 530 have been certified for final inspection, the A.I.D. Inspector-in-charge will file one copy in his records. Where final inspection has been carried out at a stores depôt, the remaining copies will be handed to the depôt authorities ; in all other instances, except as laid down in para. 6 (ii) above, they will be returned to the contractor.

8. Where final inspection has been delegated by D.A.I. to an authority or person outside the A.I.D., the Forms 530 still require to be certified by a responsible individual authorised to sign for D.A.I. In certain special cases, viz., the Meteorological Office and the R.A.E., D.A.I. has authorised signature on his behalf by a member of their staff. With these exceptions and any other like instances subsequently notified, all Forms 530 for " delegated " inspection will be signed by an A.I.D. representative on the strength of a certificate from the authority or person to whom inspection has been delegated.

9. Instances occur in which goods received in R.A.F. stores depôts without the relevant Forms 530 are urgently required for issue. To meet these difficulties it was formerly the practice to raise Forms 600 (Contracts Receipt Vouchers) and for the A.I.D. to endorse these as having approved the goods. This practice is now forbidden and, when an instance of the kind occurs, the depôt will create a set of "dummy" Forms 530, consisting of two copies, which will be certified by the A.I.D. and will be used for bringing the goods on charge, but will not form authority for payment. The A.I.D. will file one copy of the "dummy" form and, when the real set of Forms 530 comes to hand, will certify these on the basis of the dummy. The A.I.D. copies of the dummy and true forms will be filed together.



A.I.D. AND AIR MINISTRY STAMPS AND MARKS

1. *A.I.D. stamps.*—The stamps issued to A.I.D. staff are of three classes, as follows :—

(i) Stamps allocated to each inspector, and bearing the letters “ A.I.D.” followed by a group of letters and number identifying the individual.

(ii) Stamps bearing the letters “ N.S.”.

(iii) Stamps bearing the letter “ R ”.

Regulations concerning the issue of A.I.D. stamps are contained in Leaflet S.1.

2. *Significance of the Inspector's stamp.*—The placing on any article of a stamp as in para. (i) indicates that the A.I.D. representative in question has seen the article and has found it at that stage correct and fit to go forward. The stamp that appears on any article, for any operation, must be that of the individual who personally approves the article at that stage. When a senior A.I.D. representative is called in to exercise his greater discretionary powers and to give a final decision as to the acceptance of any article, he must apply his own stamp; the stamp of his subordinate must not be applied. This rule admits of no exception.

3. *Significance of the N.S. stamp.*—The letters “ N.S.” denote “ Not Serviceable ”, and the presence of the stamp signifies that the A.I.D. have found the article on which it appears to be unfit for R.A.F. service. Normally, the N.S. stamp is used only at R.A.F. stores depôts, where it is applied to designate equipment which has been put up to A.I.D. on an Examination Order for re-inspection and, as the result of such re-inspection, been found to be unserviceable. The N.S. stamp is not to be used at contractors' works, or on new supplies examined at stores depôts, without definite instructions in each particular instance from the head of the division concerned. The N.S. stamp, when used, must always be applied immediately under the A.I.D. stamp of the individual who applies the N.S. stamp.

4. *Significance of the “ R ” stamp.*—The letter “ R ” is used to distinguish between new articles of equipment and those that have been repaired or reconditioned. Its use is to be strictly confined to those special instances that are dealt with by Inspection Instructions, which contain detailed orders as to the use of the letter “ R ”. When the letter “ R ” is used, it must always be applied immediately under the A.I.D. stamp of the individual applying the letter “ R ”.

5. Inspection stamps are issued to individuals of the staff for their personal use. They are to be retained by the individual whom they identify, and he is forbidden to hand them to any other person for any purpose whatever except their return to A.I.D. stores. The greatest care is to be taken to prevent their loss, not only because of their intrinsic value, but owing to the grave risk of unauthorised use.

6. The loss of an A.I.D. inspection stamp will be treated as a breach of discipline, and will be dealt with by a board of enquiry. Such loss is to be reported to headquarters by telegram or telephone immediately it is discovered. The number of the lost stamp will then be cancelled, and a set bearing a new number issued in lieu. It is forbidden to continue using the rest of a set of stamps of which one has been lost. The word "stamp" in this order denotes steel and rubber stamps, stencils and any other marking device used for the personal identification of an individual.

7. *Air Ministry Property Mark.*—The registered mark denoting that an article is the property of the Air Ministry comprises the letters "A.M." surmounted by a crown. Air Ministry contracts impose on the contractor the placing of this mark on the supplies when required; goods obtained on local purchase order are usually stamped by the Service. It is not applied by A.I.D. inspectors.

**CONTRACTORS' STAMPS AND MARKS ON R.A.F.
SUPPLIES**

1. Instances occur in which a contract, or a specification or drawing, covering work under a contract, expressly stipulates or expressly forbids the placing of the contractor's name, trade mark or other identification of the source of supply, on the articles ordered. Where such stipulations appear, it is, of course, the Inspector's duty to enforce them. In the absence, however, of such express requirements, no inspectional action need be taken as to the placing of such marks on the goods, or their removal if already affixed, save only where the marking is so applied as to prejudice strength or serviceability.

2. In addition to the marks referred to in para. 1, all parts examined and accepted by a firm's approved inspection staff must be stamped by them in the authorised manner, *see* Leaflet C.2.

RE-INSPECTION OF STORES AT STORES DEPOTS

1. Inspection of supplies on initial entry into service ownership supplemented by periodical reinspection of perishable goods, suffices in general to ensure fitness for use when issued to R.A.F. units.

2. Where, however, issue is made to an Air Ministry contractor, there is an implied warranty that the goods, as despatched from the R.A.F. stores depot, are in the condition described to the contractor. That is to say, if they are issued for embodiment in new equipment they must be serviceable, and undeteriorated; if for repair or modification, they must require only such work to be done on them as has been tendered for. In this respect Air Ministry establishments other than R.A.F. units—for instance, the Royal Aircraft Establishment—are in a similar position to contractors, in that they have been instructed to undertake certain work on, or to utilize, goods issued to them on the understanding that such goods are issued in a fit condition for such work to be put in hand. Further, when the custody of a category of stores is transferred from one stores depot to another, it is likewise essential that the condition of the stores shall be correctly recorded on the documents effecting the transfer, or the receiving stores depot may be unaware of the true condition of the goods.

3. *Stores issued to contractors or Government establishments other than R.A.F. units.*—It is laid down as the standard and invariable practice that all issues to a contractor, or to a Government establishment other than a R.A.F. unit, and all categories of stores transferred *en bloc* from one stores depot to another, are to be examined by the A.I.D. immediately prior to despatch, and that an A.I.D. certificate in one or other of the following forms is to be endorsed on the issue voucher:—

(i) where the articles are intended for use as issued: “Certified that the goods detailed hereon have been inspected and are serviceable”;

(ii) where the articles are intended for re-conditioning, repair, modification or survey: “Certified that the goods detailed hereon have been inspected and are fit for issue for the purpose stated”.

The certificate is to appear on the back of each copy of the issue voucher, and is to be signed by an A.I.D. representative of grade not lower than senior examiner.

4. For all other classes of stores (except war-time stocks, *see* para. 7 below) re-inspection before issue is to be limited to verifying :—

(i) that the goods are as described in the issue voucher, and

(ii) that they have not suffered any appreciable deterioration since their acceptance.

5. Each issue to a contractor or Government department is to be released by the A.I.D. at the stores depot. Two copies of the A.I.D. release note are to be prepared, the original being retained for file purposes and the second copy attached to the certified issue voucher when the latter is handed back to the depot. It is not essential to give on the release note a detailed description of the goods. The expression “articles as detailed in the accompanying issue voucher No.....” may be used.

6. *Perishable stores.*—Certain classes of stores, which are referred to in the storage regulations (A.P. 830 and A.P. 1245, Chapter 3), have to be re-inspected periodically, the interval depending on the classification of the particular article. Provided the time that has elapsed since the last re-inspection is less than 60 per cent. of the prescribed interval, such stores need not be re-inspected prior to issue, save for a small percentage inspection to verify that their condition has not appreciably changed. For this purpose depots will so label or identify the goods in question as to ensure that the date of the last inspection is always available to the A.I.D. staff. This procedure applies to all stores, subject to compulsory periodic reinspection or re-test of any kind.

7. *Stores of war-time manufacture.*—When goods of war-time manufacture are submitted for inspection prior to issue, the Inspector must ensure by means of check tests and examination, that the materials, workmanship and/or functioning are satisfactory to present-day requirements. It may be necessary to test selected articles to destruction in order to ascertain the correctness or otherwise of the material, and to subject the bulk to hardness or other tests in order to establish that the material is consistent with the specimen tested.

8. *Depot stocks and unit returns.*—(i) *See* A.P. 830, Vol. I, and A.P. 1245, Chapter 3.

(ii) The classification of stores submitted for conditioning is “Serviceable”, “Repairable”, “Unserviceable”. When preliminary inspection shows that delay will occur in classifying stores, then, in clearing the relevant documents, those stores are to be designated as “Unclassified”, the abbreviation “U/c” being used for marking documents.

A.I.D. TEST HOUSE

1. *General.*—The Test House is controlled and administered by C.I.S. The duties of the Inspector-in-charge A.I.D. Test House are detailed in Leaflet B.7. The procedure at the Test House in connection with the provision, issue and care of inspection equipment is dealt with in Section R. The procedure in connection with the testing of instruments, materials, etc., is detailed below.

2. *Function of A.I.D. Test House.*—The A.I.D. Test House at Kidbrooke is primarily for A.I.D. check tests of instruments, materials, etc. It may be employed, however, by firms in certain circumstances, as set out in Leaflet M.2. The testing and inspection of material, instruments and other articles is only undertaken by the A.I.D. subject to the express stipulation that neither the Air Ministry, the D.A.I., nor any servant of the Crown shall be under any liability for loss or damage whether caused by fire, accident, negligence of any servant of the Crown or otherwise.

3. *Control-testing of A.I.D. Test House.*—The Inspector-in-charge, A.I.D. Test House, is responsible for ensuring the accuracy of the results obtained by the Test House staff, and also the accuracy of the apparatus employed. Control tests are to be made on new entrants and also when changes in the duties of individuals render such action desirable. At least two successive control tests of a satisfactory nature are to be established in respect of each individual.

The results obtained from these control tests, together with their cost, are to be tabulated and embodied in a report which must be submitted to headquarters quarterly, or at more frequent intervals as may be directed by the head of the division. The accounts for these charges are to be certified by the Inspector-in-charge, A.I.D. Test House, and forwarded to I.G. Payment of these accounts will be made direct from the Air Ministry.

4. The scale of fees chargeable by the A.I.D. Test House is contained in Air Publication 1226.

APPLICATIONS FOR TEST AT THE A.I.D. TEST HOUSE

1. Applications for test fall under one of the under-mentioned categories, and are to be submitted on the forms stated :—

- | | | |
|--|----|--|
| (i) An A.I.D. test | .. | A.M. Form 694 single copy. |
| (ii) A test submitted by other directorates. | | Examination order, etc., in duplicate. |
| (iii) A test on prepayment | | A.M. Form 694A, in duplicate. |
| (iv) A test on repayment.. | | A.M. Form 694B, in triplicate. |

2. All instruments, material, etc., forwarded for test are to be addressed to :—

The Inspector-in-charge, A.I.D.,
Test House,
No. 1 Stores Depot,
Royal Air Force,
Kidbrooke, S.E.3,

and are to be accompanied by advice notes having reference to the relevant applications. Cost of carriage must be prepaid.

3. The application forms mentioned in para. 1 are to be addressed as under :—

- | | | |
|---|---|--|
| (i) For an A.I.D. test or a test submitted by other directorates. | { | The Inspector-in-charge,
A.I.D.,
Test House,
No. 1 Stores Depot,
Royal Air Force,
Kidbrooke, S.E.3. |
| (ii) For a test on prepayment or repayment. | | The Officer Commanding,
No. 1 Stores Depot,
Royal Air Force,
Kidbrooke, S.E.3. |

All cheques, postal orders and money orders are to be crossed " & Co., not negotiable ", and made payable to " Air Council No. 1 Stores Depot, Public Account ".

4. *A.I.D. tests.*—(i) The expression " A.I.D. test " includes only tests which are made purely for A.I.D. purposes, either in connection with direct A.I.D. inspection or checking by A.I.D. of firms " approved " inspection. The use of A.M. Form 694 is restricted to tests of this kind. When, owing to lack of proper facilities at a contractor's works, the contractor

asks that the tests, which should be done at his expense in accordance with the conditions of A.M. Form 705 (full or modified), should be made at the A.I.D. Test House, they do not become "A.I.D. tests", even though submitted through the agency of an A.I.D. inspector. On the other hand, all tests made in connection with contracts placed to the conditions of A.M. Form 659 are "A.I.D. tests".

(ii) In all instances where A.I.D. tests are carried out in accordance with the requirements of an Air Ministry contract, the material from which the test pieces are to be prepared must be supplied by the contractor free of charge to Air Ministry. The cost of preparing the test pieces will be borne by A.I.D.

(iii) Before submitting an application for an A.I.D. test the relevant specification should be carefully studied in order that the actual tests required may be clearly defined on the application and that the amount of material required for test may be estimated. The specification with its issue number is to be quoted. Where the application refers to an obsolete specification, reasons for doing so must be given. Application for test of metallic samples should record "Analysis only" or "Mechanical test only", etc., in the column of remarks. When dimensional checks are called for the exact dimension should be stated. The expression "check to drawing or specification" should only be used when a full check is absolutely necessary. When reference is made to a drawing, a copy of the drawing should be forwarded. Where this is not possible, the date and issue number of the drawing should be stated.

(iv) The certificate at the right-hand top corner of A.M. Form 694 must be completed by the A.I.D. Inspector before despatch, clause (a) or (b)—whichever is not applicable—being struck out. He is also to insert the relevant contract number or, if this cannot be given, he is to state the reason for submitting the application.

(v) A.I.D. Inspectors are authorized only to send applications for tests of a routine nature, that is, for tests which are to prove whether the test samples comply with specification requirements or not. Other A.I.D. tests must have the approval of headquarters. Applications on Form 694 for such special A.I.D. tests are to be forwarded with an explanatory letter to the headquarters branch technically directing inspection of the supplies concerned; but the samples for such special tests are to be forwarded direct to the A.I.D. Test House and marked "Special samples, instructions with regard to which will be forwarded from headquarters".

5. *Tests for other directorates (para. 1 (ii)).*—Tests are undertaken for other directorates where applications are submitted on examination orders, etc.

6. *Tests on prepayment (para. 1 (iii)).*—Provided prior approval has been given by headquarters applications may be accepted from firms which are actively engaged in connection with the aeronautical industry. No test on a prepayment basis will be commenced until A.M. Form 694A has been received from the Civil Assistant and Accountant, No. 1 Stores Depot.

7. *Tests on repayment (para. 1 (iv)).*—Applications for tests on repayment will be accepted only from firms appearing in the A.I.D. list of firms whose inspection is approved. Where a contract calls upon the contractor to carry out tests or to pay for testing, and such tests are made for the contractor's convenience in the A.I.D. Test House, the tests will be undertaken on a repayment basis. Applications for such tests are to be made on A.M. Form 694B, which is to be signed by a responsible member of the firm's staff. No test on a repayment basis will be commenced until A.M. Form 694B is received from the Civil Assistant.

INTERNAL PROCEDURE FOR DEALING WITH TEST APPLICATIONS

1. Applications for test dealt with in the A.I.D. Test House fall into one of the following categories :—

- (i) An A.I.D. test. A.M. Form 694.
- (ii) A test submitted by Examination order, etc.
another directorate.
- (iii) A test on prepayment. A.M. Form 694A.
- (iv) A test on repayment. A.M. Form 694B.

2. Test applications and specimens for test, when received in the Test House, are to be dealt with in the manner set out below.

3. All consignments will be received by the clerk-in-charge. He will ultimately receive the relevant documents, namely, Form 694, examination order, etc. After ascertaining that no outward damage has occurred in transit, and that the articles or material received agree in quantity and description with the details given in the documents, he is to sign a receipt for the articles. Lock-up rooms will be available for the safe custody of the consignments.

4. For each application the clerk-in-charge is to raise a job card (A.M. Form 1324) of a distinctive colour, indicative of the day of the week on which the test should be completed, and the results received in the general office, if carried out in standard time. The number allocated to the job card is to be obtained from the relevant job card register (*see* para. 8 (ii)). The job card is to bear particulars of the stores to be tested, appropriate specifications and special requirements, if any. It is not to include any details as to the origin of the application or manufacturer of the stores, these details being entered only in the job card registers.

5. On receipt of a job card duly initialled as at para. 8 (iii) below, the section concerned is to arrange for the collection of the stores to be tested and will, thereafter, be held responsible for any delays which may occur in completing the test. When the requisite tests have been completed, the section is to date the job card and to return it, together with the relevant report to the clerk-in-charge. From the information available from the report, the clerk-in-charge is to complete the relevant documents, and pass those requiring signature to the Inspector-in-charge.

3. On receipt of the completed job card, the clerk-in-charge is to take immediate action for the disposal of the respective stores, obtaining a receipt.

7. Where it is necessary, on ground of urgency, to subdivide a consignment, the job card register is to show each separate quantity returned.

8. Applications for tests received from other directorates are also to be dealt with as at para. 4, provided :—

(i) they are submitted on examination orders by the Instrument, Wireless and Electrical Workshops at Kidbrooke ; or

(ii) they are submitted in accordance with Air Publication 830, Volume I, Appendix 18.

All other applications for test received from other directorates require prior authority from headquarters.

9. Applications for tests on repayment, and on prepayment with remittances, will be received in the first instance by the Civil Assistant and Accountant.

10. Applications for tests on prepayment and repayment received from the Civil Assistant are to be dealt with by the Inspector-in-charge, A.I.D. Test House, as set out at para. 8.

11. The Inspector-in-charge A.I.D. Test House is to ensure that :—

(i) a job card is prepared for every test under (ii) below as at para. 4, and the number of each test under (ii) (c) below is noted on the application form ;

(ii) a record is kept of every job put in hand with an indication whether it is a—

(a) test on prepayment ;

(b) test on repayment ;

(c) A.I.D. test, or test submitted by another directorate.

For this purpose three separate registers of serial numbers of job cards, one for each type of test, will be maintained. In cases (a) and (b), the amount of the fee paid or payable will be recorded ;

(iii) the job card is checked both with the application and with the job card register, and initialled by him personally as authority for the work to be put in hand and as evidence that he is satisfied as to the financial terms on which the test is to be carried out ;

(iv) where the test is on prepayment—

(a) on receipt of an application from the Civil Assistant and Accountant, the sequence of the Civil Assistant and Accountant's number thereon is checked.

(b) the fee recorded on the application is correct, or, where the test is not expressly provided for in A.P. 1226, the amount remitted approximates to the estimate of

ultimate cost based on Inspectors' time plus overhead charges. In the event of an underpayment, or of an overpayment, he will request the Civil Assistant to effect the necessary adjustment. No refund is, however, to be authorized in respect of a special test until the job has been completed and the actual cost plus overhead charges determined ;

(c) no test report is signed by him without reference to the application form, to satisfy himself that payment for the test has in fact been received by the Civil Assistant and Accountant ;

(v) where the test is on repayment—

(a) on receipt from the Civil Assistant and Accountant of an application form, the sequence of the Civil Assistant and Accountant's number thereon is checked.

(b) A.M. Form 694B in triplicate is returned to the Civil Assistant and Accountant showing the amount due to be recovered from the applicant and also in the case of a test not provided for in A.P. 1226, the grade of, and number of hours spent by, each member of the staff employed on the test.

The Civil Assistant and Accountant will deal with the three copies of A.M. Form 694B as follows :—

Forward one copy with claim to the applicant.

Return one copy duly endorsed to the Inspector-in-charge A.I.D., Test House.

Retain one copy ;

(c) no test report is signed by him without reference to the triplicate application form to satisfy himself that the Civil Assistant and Accountant has noted the amount due for recovery ;

(vi) all members of his staff are instructed that no test is to be commenced in the absence of the initials of the Inspector-in-charge on the job card.

12. The Inspector-in-charge, A.I.D. Test House, is to forward on the first day of each month to I.G. the following statements, prepared from the job card register and application forms :—

(i) Statement of all tests on prepayment *completed* during the previous month.

(ii) Statement of all tests on repayment *completed* during the previous month.

13. Against each prepayment and repayment test in the job card register is to be noted the period of the return in which the test has been reported to the Air Ministry.

SUB-LETTING OF TESTS

1. *Sub-letting of tests by A.I.D. Test House.* Where it is found that samples received for A.I.D. test (Leaflet M.2) cannot be completed within "standard" time, the Inspector-in-charge, A.I.D. Test House, is authorized to arrange for such tests to be forwarded to the Government Laboratory, Clements Inn, W.C.2. Should the Government Laboratory also be unable to carry out the test in the "standard" time, or the test be of a kind that is not normally carried out by them, the Inspector-in-charge, A.I.D. Test House, is to arrange for the samples to be forwarded to an independent approved test house on a repayment basis, a limit of expenditure being allocated to him periodically for this purpose. The accounts for the charges, after being certified by the Inspector-in-charge, A.I.D. Test House, are to be passed to I.G. for payment.

2. *Sub-letting of tests by A.I.D. offices.*—At A.I.D. offices, when check tests are urgently required or when it is confirmed that the A.I.D. Test House cannot, owing to pressure of other work, undertake further testing without undue delay, the Inspector-in-charge is authorized to sub-let such tests to an approved Test House. In this connection each Inspector-in-charge, A.I.D. office, is allocated a limit of expenditure to cover these local tests, and this limit is not to be exceeded without prior authority from headquarters. It is important to note that all accounts for testing charges resulting from the tests referred to above are to be forwarded to I.G. duly certified by the Inspector-in-charge. Payment of these accounts will be made direct from the Air Ministry.

DESPATCHING OF TEST SAMPLES

1. The quantity despatched for test should be the amount required by the relevant specification, but is not to be less than that stated in A.P. 1226.

2. The Advice Note which accompanies the sample should record the Test Application No. and should state disposal action of the sample after the test has been carried out.

3. Samples forwarded for test are normally to be despatched in the containers detailed at para. 5. Special attention should be given to the following points :—

(i) Containers are to be properly sealed by the corks, screwed caps, etc., provided.

(ii) At engine stations where type tests are carried out and it is necessary to despatch $\frac{1}{2}$ -gallon of the fuel used during the test by passenger train for check and/or analysis, $\frac{1}{2}$ -pint containers (bottles, inflammable, $\frac{1}{2}$ -pint) are to be used and packed as detailed at paras. 3 and 5.

(iii) All corks and stoppers are to be securely inserted and tied in with string. When stoppers are used in connection with bottles, referred to in para. 5 (vi), they must be sealed.

(iv) The lids of lever tins are to be driven home with a wooden instrument, and the lid tied in with string. The container is to be inverted and shaken to see that the lid is a close fit when driven home.

(v) The practice of "packing" lever lids with paper or fabric is not to be employed. If the lid does not make a close metal-to-metal joint when driven home, the container should be returned to the A.I.D. Test House as unserviceable.

(vi) Cartons and lever-lid tins are to be very securely packed, ample paper being used for this purpose. Tie-on labels *must* be used, the name and address being written on the parcel.

(vii) Stamps, where necessary, are to be applied to the tie-on label, *not* affixed to the parcel.

(viii) When tins, sample, are used, stick-on labels should be affixed to the tin itself and not to the lid. To prevent its being detached, the tin should be rubbed with a piece of emery cloth before the label is affixed.

(ix) When issued from the A.I.D. Test House, containers are to be complete with their respective cases, cartons, corks, packing labels and demand notes.

(x) Materials which require mixing should be forwarded in wide-mouth lever lid tins.

(xi) Containers of volatile or inflammable liquids are not to be soldered.

(xii) Containers packed in sawdust must be first efficiently wrapped in paper.

(xiii) Sealing wax should be used with discretion, as there is risk of particles falling into the samples when opening a container, on which an excessive amount of sealing wax has been used.

(xiv) In forwarding inflammable or dangerous liquids or fluid compounds, such as petrol, benzol, methylated spirit, dope or dope-solvents, nitro colours and nitro varnishes for use on doped fabric, mineral acids, etc., it must be remembered that—

(a) such materials may *not* be sent by post ;

(b) they may be sent by passenger train in one or more $\frac{1}{2}$ -pint containers (tins, inflammable, $\frac{1}{2}$ -pint) each container being packed in fibre board containers with metal ends wrapped in paper or in a wooden box with sufficient sawdust (for inflammable liquids) of kieselguhr (for mineral acids) to absorb the whole of the liquid in the event of leakage ;

(c) they may be forwarded by goods train in larger than separate $\frac{1}{2}$ -pint containers, in the official cartons, or properly protected by wood cases.

(Note.—Where the “ Regulations for the Testing of Aeronautical Materials ” (A.P. 1226) require larger than $\frac{1}{2}$ -pint samples to be forwarded, it follows that if “ passenger train ” transport is to be employed the sample must be forwarded in two or more separately packed $\frac{1}{2}$ -pint containers, but not more than 10 $\frac{1}{2}$ -pint containers may be despatched together in one consignment.

(xv) Where samples of explosives are to be sent for test, application is to be made to A.C.I. Arm., who is to arrange for methods of consignment and for the correct type of container to be used.

4. Where contractors and others offer or desire to use their own containers for despatch of samples to the A.I.D. Test House or elsewhere they may be allowed to do so provided that :—

(i) The containers are supplied without charge.

(ii) They are found on inspection to be perfectly clean and suitable in every way for their purpose.

(iii) They are acceptable to the transport companies.

(iv) They are non-returnable.

5. *Standard containers.*—The following statement shows the types of official containers available, the general purposes for which they may be used, and the methods of transport :—

Nomenclature of container.	Use.	How it may be sent.
(i) Bottles, oil, 1-pint .. (<i>Note.</i> —Issued complete with cork and carton.)	For non - inflammable, non-volatile liquids such as lubricating and transformer oils, oil varnish, etc.	Post, passenger or goods train.
(ii) Bottles, oil, $\frac{1}{2}$ -pint .. (Issued complete with carton and sawdust packing)	For inflammable volatile compound fluids such as dope, nitro colours and nitro varnishes for use on doped fabric, etc.	Passenger train.*
(iii) Containers, metal, $1\frac{1}{2}$ pints.	For inflammable volatile liquids such as petrol, benzol, methylated spirit, dope solvents, etc.	Goods train.*
(iv) Bottles, inflammable, $\frac{1}{2}$ pint. (<i>Note.</i> —Issued complete with wood case and sawdust packing.)	As in (iii) above	Passenger train.*
(v) Tins, sample ..	For samples of solids, jellies, greases and semi-fluid materials of the paint order.	Post.
(vi) Bottles, glass, 10 oz. (<i>Note.</i> —Issued complete with wood case and kieselguhr packing.)	For corrosive liquids of the mineral acid type.	Passenger train.*

* The consignment of test samples (non-explosive) by passenger or goods train as detailed above should be carried out on the appropriate form of carrier's note (Form 1486) if readily available. If not available, carriage should be paid out of station imprest by the Inspector-in-charge, who should include the receipted bill in his imprest account.

6. In order that the number of containers at stations may be maintained, the Inspector-in-charge, A.I.D. Test House, will at quarterly intervals issue replacement containers in order to bring the stock then held at any station, office or bond up to its initial supply. Should the stock of containers at a station, office or bond become unduly low during a quarterly period the Inspector-in-charge will indent for such containers as he may require.

7. *Labels*.—Special printed labels (as under) will be issued with all containers either when first issued or when issued in replacement.

(i) Tie-on label for despatching (for case or carton) purposes.

(ii) Stick-on label (for container) for consignor to record the nature of contents, test application No., etc.

A.I.D. TEST REPORTS AND CERTIFICATES

1. The results of all tests carried out at the A.I.D. Test House are to be recorded on A.I.D. test reports indicating the actual test figures obtained, the corresponding specification figures, and, for certain materials and instruments, a statement indicating whether, or to what extent, the material or instrument in question complies with the specification for which it was put forward. Remarks as to any special occurrence or behaviour on test are also to be inserted in the certificate. The staff of the A.I.D. Test House do not approve or reject, and are responsible only for the execution of the required tests on the samples submitted to them.

2. Test reports are to be distributed as follows :—

(i) For A.I.D. tests, three copies :—

(a) Original to Inspector-in-charge applying for the test.

(b) Filed in Test House.

(c) To the headquarters branch technically directing inspection of the supplies concerned.

(ii) For tests for other directorates :—

Test reports are normally not issued for tests carried out under this category, the result of the test being recorded on the examination order. The original examination order is to be returned to the unit applying for the test. The duplicate copy of the examination order bearing, where possible, the receipt of the unit for the equipment returned to them, is to be filed in the Test House.

(iii) For tests on repayment and prepayment, four copies :—

(a) Original to firm applying for test.

(b) To the A.I.D. Inspector responsible for the supervision of the firm's approved inspection, or if the firm's inspection is not approved, then to the Inspector-in-charge of the A.I.D. office or station concerned.

(c) Filed in Test House.

(d) To the headquarters branch technically directing inspection of the supplies concerned.

3. Any noteworthy test results are to be reported to headquarters. The Inspector-in-charge of the Test House is responsible for taking this action. Each such notification is to be accompanied by a copy of the relevant test report.

4. Whenever it is found that the test report cannot be forwarded within seven days of the receipt of the application, the Inspector-in-charge, A.I.D. Test House, is to notify the applicant to that effect, stating, if possible, when the report may be expected.

5. Inspectors-in-charge, A.I.D., who obtain supplies of A.M. Forms 694A and 694B, are responsible for their safe custody and proper distribution. The forms to which they may be distributed are laid down in Leaflet M.2. In order that these application forms may be traced, serial identification numbers will be printed on each set of forms and recorded when issued from A.M.P.D.

6. The information given in a test report rendered in accordance with Leaflet M.2, is not to be published without the prior consent of the Air Ministry. Attention is to be drawn to this when returning a test report to the applicant.

7. Test reports issued by approved test houses and by approved firms are dealt with in Leaflets M.7 and M.8 respectively.

ISSUE OF TEST REPORTS BY APPROVED TEST HOUSES AND LABORATORIES

1. The normal form of report issued by test houses and laboratories may be accepted, but each and every copy must bear the reference number of the approval and a serial number for purposes of identification.

2. Every test report must be signed by the director of the test house or laboratory or by his authorized deputy.

3. Test reports are to refer to the individual requirements of the relevant specification and/or drawing, so that there is confirmatory evidence that the results of the tests are in every way satisfactory. Where testing consists of calibration only, a statement such as "satisfactory" will be sufficient evidence; actual figures need only be shown when quantitative results are required by the specification and/or drawing.

4. The distribution of test reports issued by an approved test house or laboratory is to be as under :—

(i) One copy is to be forwarded to the firm which submitted the sample for test.

(ii) One copy is to be forwarded to the supervising A.I.D. Inspector.

(iii) One copy is to be retained for filing in the records of the test house or laboratory. This copy is to be available at all times for inspection by the A.I.D. Inspector supervising the test house or laboratory.

5. The relationship between test reports and release notes is dealt with in Section K.

ISSUE OF TEST REPORTS BY APPROVED FIRMS

1. These test reports are to refer to the individual requirements of the relevant specification and/or drawing, so that there is confirmatory evidence that the results of the tests are in every way satisfactory. Where testing consists of calibration only, a statement such as "satisfactory" will be sufficient evidence; actual figures need only be shown when quantitative results are required by the specification and/or drawing.

2. Each test report is to be properly certified by an authorized representative of the firm responsible for the accuracy of the tests involved.

3. Where a firm is approved for the testing of materials and the material is to be heat-treated after delivery, the distribution of the firm's test reports is to be as follows:—

(i) Original to the consignee.

(ii) One copy to the A.I.D. Inspector who supervises the firm which carried out the test.

(iii) One copy to be retained for record by the firm making the test. This copy is to be at all times available for inspection by the supervising A.I.D. Inspector.

4. Where a firm is approved for the testing of materials, but the material is not to be heat-treated after delivery, or where a firm is approved for the testing and/or calibration of instruments, wireless and electrical accessories, or the functional testing of aircraft, engine or armament accessories, the original of the test report is to be retained for record by the firm making the test, no copies being required either by the consignee or supervising A.I.D. Inspector. The identification number of the test report is, however, to be quoted on the relevant release note.

5. Where the test report is incorporated in the approved firm's release note, distribution is to be that given for release notes in Leaflet K.3.

6. Inspectors-in-charge concerned are to make such arrangements with the approved firms under their supervision, as will ensure that test reports of approved firms are regularly prepared and distributed, as laid down in paras. 1 to 5 above.

REJECTION OF GOODS PREVIOUSLY RELEASED .

1. The principle that goods passed by one Inspector cannot be rejected by another of the same or lower rank is of universal application and covers all possible circumstances, including :—

- (i) Delivery from a firm to a stores dépôt.
- (ii) Delivery from sub-contractor to main contractor.
- (iii) Delivery from one contractor to another under Air Ministry instructions.
- (iv) Issue from stores dépôt to contractors or government establishments.

2. When an A.I.D. Inspector considers that any goods have been incorrectly released to him, he is not to agree to their use, but is to initiate a " Defective Inspection Report " (see Leaflet N.2).

3. Although, as pointed out above, the Inspector is to see that the goods are not used before the final decision is obtained, he is to be careful not to interfere as between a contractor and his sub-contractor. If the former desires to return the goods to the latter, this course should not be opposed, but any such proposal should be mentioned on Form 1283.

4. The same principles apply when discovery of the apparent incorrectness is made by a consignee firm's approved inspection. In that event, however, the Inspector should have made arrangements with the consignee firm that all rejections of goods previously released are brought to his notice, and that he is afforded an opportunity of seeing such goods before they are returned. Where the A.I.D. Inspector is resident at the consignee's works, the scrutiny of rejects should be invariably carried out ; and although it is realised that difficulty may arise in the case of non-resident " approved " firms, efforts should be made to apply the procedure so far as may be feasible. As soon as the Inspector has seen the rejected goods, he is to communicate with the supervising Inspector concerned, reporting the rejection. If he himself regards the rejection as justified, he is to initiate a " Defective Inspection Report ", stating also, for the information of the supervising Inspector, whether the defect indicates a serious breakdown of " approved " inspection or merely points to the need of somewhat greater caution. If, however, the Inspector's scrutiny of the rejected goods leads him to disagree with the rejection, he is to report the rejection to the supervising Inspector by letter, quoting the reason given and stating that he is not in agreement.

5. Wherever conditions permit, the communication reporting the rejection of goods previously released should be accompanied by a sample or specimen of the goods in question.

6. It is essential to discriminate carefully between errors in inspection prior to release, and defects which, though then existing, could not be detected except as the result of some later operation—such as internal blow-holes in castings or inclusions in stampings. Disclosure of such faults does not indicate a “failure of inspection”, and the Inspector concerned is entitled to act at his own discretion. Irrespectively, however, of his decision to accept or reject the consignment in question, he is to inform the A.I.D. representative concerned with the supplies as to the nature of the defects found, so that the causes may be investigated and recurrence prevented. Otherwise, similar hidden defects may continue and may escape detection. Such information is to be conveyed by letter; A.M. Form 1283 is not to be used except when a genuine failure of inspection is indicated. A measure of check inspection by the main contractor of deliveries from sub-contractors is of the greatest value and is to be encouraged.

DEFECTIVE INSPECTION REPORTS

A. Headquarters

1. Whenever A.I.D. inspection is officially criticised, questioned, or commented upon—whether in connection with R.A.F. equipment of any kind or with civil aircraft—or where the head of an inspection division is of the opinion that there is reason to suspect some inspectional deficiency or failure, an investigation is to be carried out. A separate file is to be opened at headquarters for each occurrence, and A.M. Form 1283 is to be used for recording the progress and results of the investigation.

2. The work involved by such investigations is to be given first priority, particularly in the earlier stages of the investigation as to whether any immediate action may be necessary.

3. If, at any stage of an investigation, it appears to be established that inspection is not involved in the complaint, the investigation may be suspended and the file submitted to the head of the branch for authority to discontinue further action. Such decisions rest with the heads of branches and will be recorded by them on A.M. Form 1283. With this exception every "Defective Inspection Report" in this class, on completion of the investigation, is to be passed to the head of the appropriate division who will, when the matter appears to be sufficiently serious, refer it to D.A.I. before it is closed. Where the complaint originates outside the A.I.D. a suitable reply is to be sent to the complainant.

4. Where a D.I.R. is raised at headquarters the A.M. Form 1283 is to be prepared in duplicate by completing Part I of the form. The original is then to be forwarded to the A.I.D. Inspector responsible for the inspection of the supply concerned for completion of Parts II and III and returned to the originating division of headquarters.

5. The Inspector responsible for the inspection which has passed the alleged defect is at once to institute investigations, and on completion to enter his report in Part II of Form 1283. He is then to complete (a) and where possible (b) of Part III, and to forward it to the head of the branch from which he received it.

6. The head of the branch is to complete the investigation, and record the result on the form, adding his recommendations, if any, in Part IV. He is then to submit the form to the head of the division, who will, when the matter appears to be

sufficiently serious, refer it to D.A.I. before it is closed. When the investigation has been completed and all necessary action taken, the A.M. file will be closed.

B. Outstations

7. The A.I.D. Inspector-in-charge at an outstation, where a defect is discovered in a supply which has been inspected before delivery, is to report the matter promptly by means of A.M. Form 1283. He is to complete Part I of the form and make one copy. He is then to forward the original form for completion of Parts II and III to the A.I.D. Inspector responsible for the inspection that has been carried out before delivery. The originating Inspector is to retain the copy, but should he not receive the original back, as laid down in para. 9 below, within one month of the date on which the form was "raised", he is to forward a duplicate copy to the head of the division, to which he belongs, so that the latter may investigate the cause of the delay. Such references to headquarters should seldom be necessary, since it is rarely that the investigation should take such a long time, expedition in dealing with all D.I.R.'s being essential to achieve the object in view.

8. The Inspector responsible for the inspection which has passed the alleged defect is at once to institute investigations, and on completion to enter his report in Part II of the A.M. Form 1283. He is then to complete (a) and where possible (b) of Part III, and to forward the form to the head of the division, to which he belongs. On receipt the latter will pass it to the appropriate branch for completion of the investigation. The branch is to complete the investigation, and record the result on the form, adding its recommendations, if any, in Part IV, and submit to the head of the branch who, if he is satisfied, is to complete Part V. Defective inspection reports in this class need not be submitted to the head of the division concerned.

9. When the investigation has been completed, and all necessary action has been taken, the form is to be returned to the Inspector-in-charge who originally "raised" it as in para. 7 above. He is to copy the additional entries in Parts II to V on to the copy of the form that he retained when it was first despatched. He is to note on the original form that this has been done, and is then to send it for a second time to the Inspector to whom he first despatched it. The original form is to be filed by that Inspector with the documents dealing with the supervision of the firm concerned, or the inspection of the articles if this has been carried out by A.I.D. staff. The copy of the form is to be filed by the Inspector who raised it, with the copy of the sub-contract order, L.P.O. or other document by which the supplies in question were ordered.

C. General

10. When originating a defective inspection report, it is important to ensure that, if at all possible, some unaltered portion of the supply, embodying the defect which forms the subject of the report, shall be either forwarded therewith, or retained in order that it may be seen at a later stage.

11. If, on commencing Part II of the investigation, the Inspector finds that, although the supplies which are the subject of the report passed through his hands, he received them in a complete and fully inspected condition, he is to return the A.M. Form 1283 to the Inspector, from whom he received it, with a full explanation of the circumstances, so that the form may be redirected by the originator to the Inspector actually responsible for the inspection of the supplies alleged to be defective.

DISTRIBUTION OF A.I.D. DUTIES AT A RESIDENT ENGINE STATION—ORGANIZATION CHART

1. A wall chart of the approved type is to be maintained in the office of the Inspector-in-charge at each resident engine station. This chart is to show :—

(i) the distribution of duties amongst the A.I.D. staff at the station ;

(ii) the work actually under construction in the contractor's shops.

A standard form of chart may be obtained from headquarters for guidance in the preparation of a similar chart at each station.

2. It is the direct responsibility of the Inspector-in-charge to distribute the A.I.D. staff at a station in such a manner as to cope most efficiently and economically with the requirements of contract output and to ensure that the staff becomes interchangeable throughout the station. It must also be constantly borne in mind that it is the urgent duty of the Inspector-in-charge to report immediately to A.C.I.E. whenever there is any likelihood of staff becoming redundant. The careful compilation and maintenance of the chart at each station will enable the Inspector-in-charge to anticipate his staff requirements accurately.

3. The following notes are for guidance in compiling and maintaining the chart :—

(i) The division of duties at a station into three groups—A, B and C—is based on the requirements of A.I.D. Inspection No. E.100.

(ii) (a) The distribution of the staff as shown in the upper portion of the chart is an illustrative example which will be applicable in its entirety at certain stations only, but covers the existing arrangements at all stations. In practice, particularly at the larger stations, these groups are subdivided into definite duties which are allotted to each member of the staff, these individual duties being changed periodically so as to attain the complete interchangeability of staff throughout the station, referred to in para. 2 above.

(b) The names of the staff at the head of each group should therefore be written on detachable discs which can be transferred from one group to another as and when the individual duties are changed. (Details of these individual duties, with roster of names, should be the subject of a small supplementary chart.)

(iii) Tables are shown at the bottom of the chart for recording the quantity of work in hand. These tables are to be completed on the first Monday in each month.

(iv) Co-operation with the planning and/or progress departments of the contractors will materially assist in the accurate compilation of these tables.

SUPERVISION OF ENGINE-TESTING AT ENGINE CONTRACTORS' WORKS

1. Ability to undertake the supervision of routine engine-testing is a definite requirement for all A.I.D. staff of the grade of aero examiner or senior, employed at engine contractors' works.

2. At all works, therefore, where aircraft engines are tested, arrangements are to be made, by means of rosters, that all such staff, excepting only the Inspector-in-charge, together with such staff as may be exempted by A.C.I.E., carry out in turn the supervision of engine-testing, and that all men spend an approximately equal time on this duty in any period of twelve months.

3. The Inspector-in-charge may make such alteration to the roster as he considers necessary, on account of ill-health, the altered periods being balanced when opportunity permits.

4. Any instance in which a member of the staff is debarred by permanent physical disability from undertaking duty on engine-testing is to be referred to A.C.I.E.

5. A record of the time each member of the station staff is employed on this form of supervision is to be maintained by the Inspector-in-charge, and is to be available for scrutiny when required.

Precautions against Exhaust Fumes

6. During experimental testing, and/or when power curves are being taken, ventilation must be provided of such a character as will effectually prevent the formation of "pockets" of fumes in parts of the test house remote from the ventilation stream.

7. Except in open test houses, it is essential, when normal engine-testing is being carried out, that exhaust gases are properly discharged outside the test house by means of suitable manifolds, piping or ducting, and that the test house itself is adequately ventilated.

8. Inspectors-in-charge of stations where engine-testing is carried out must satisfy themselves that ventilation is adequate, and are to prohibit their staff from supervising tests in test houses that are insufficiently ventilated. They are to draw the attention of the contractor to the necessity for alterations in this respect; where remedial action is not taken the matter is to be immediately reported to headquarters.

9. It has also happened that a man has been overcome in the cockpit of an aircraft, the engine of which was being run on the ground. Inspectors-in-charge of aircraft stations should therefore satisfy themselves that no undue amount of exhaust gas collects in the cockpit when an aircraft is on the ground. If any such collection is suspected, the individual carrying out the test in the cockpit of an aircraft should raise himself until his head is in the slipstream.

10. The first treatment to be applied to a person affected by inhaling fumes is to remove him into the open air and, if he is unconscious, to apply artificial respiration.

**ALTERATIONS TO AIR MINISTRY ENGINES AT SERVICE
UNITS OR SERVICE EXPERIMENTAL STATIONS**

When major adjustments and/or alterations to Air Ministry engines are necessary at service units or service experimental stations, instructions will be issued by the Director of Contracts. The responsibility for carrying out the procedure outlined in D. of C's instructions is that of the Inspector-in-charge at the engine station concerned. This Inspector must be in possession of a copy of these instructions, which are obtainable on application to D. of C.

INSPECTION OF EXPLOSIVES AND DANGER BUILDINGS IN AREAS AND COMMANDS

1. The duties of an A.I.D. Inspector of Explosives are stated in Leaflet B.8. All explosives and their ancillary stores in areas and commands will be inspected by an A.I.D. Inspector of Explosives periodically, as laid down in A.P. 1245 (Explosives Regulations for Royal Air Force). Danger buildings will be inspected annually.

Inspection of Explosives

2. The various types of air service explosives, etc., are to be inspected strictly in accordance with the appropriate A.I.D. Inspection Instructions (Armament Series). Land service explosives are to be inspected in accordance with Regulations for Army Ordnance Services, Part II.

3. As soon as the programme for the current year's inspection of explosives has been approved by the A.O.C. in an area or command, a copy of the programme will be forwarded to A.C.I.Arm. A file is to be opened at headquarters for each station to be visited. A card for each station is to be maintained at headquarters, on which are to be entered the reference numbers of the files dealing with explosives at the particular station. On these cards also are to be noted any salient features occurring at periodical inspections. In the same manner files and cards are to be maintained by each Inspector of Explosives in areas or commands.

4. In rendering the annual reports on the inspection of explosives, Inspectors are to call the attention of station commanders to any contravention of Explosives Regulations in connection with the storage, handling or maintenance of explosives, and also to mention any instances that occur of abnormal deterioration or behaviour of explosives. The Inspector is to retain one copy of his report in his local file.

5. On receipt of these reports at A.I.D. headquarters, they are to be placed in the files referred to in para. 3, carefully scrutinized, and forwarded to D. of E. with such comments and recommendations as appear necessary. On return of the file, after D. of E. has taken action, a copy of D. of E.'s letter to the A.O.C. is to be forwarded to the Inspector with any comments of a technical nature which may be considered expedient. A note of salient features arising out of inspection is then to be made on the station card.

Inspection of Danger Buildings

6. Every danger building and other compartment in which explosives are stored is to be inspected annually by the A.I.D. Inspector of Explosives. His report on this inspection is to be rendered separately from that mentioned in para. 4.

This report is to deal only with the siting and construction of buildings, their adequacy to house the stocks of explosives held at the station, their ventilation and lighting, precautions taken for fire-fighting and for protection. The report is to state whether there is any contravention of the Explosives Regulations and, if so, whether such contravention has already received Air Ministry approval. If it has not, the report should recommend either (i) that Air Ministry authority should be sought, or (ii) that steps should at once be taken to make such additions and/or alterations to existing danger buildings as will ensure compliance with the regulations.

7. On receipt of these reports at A.I.D. headquarters, they are to be placed in the appropriate file, opened as stated in para. 3, unless it is seen that action other than of a routine nature will be necessary, when a separate file is to be opened dealing with the inspection of danger buildings at a particular station. Reports are to be carefully scrutinized and passed to O.I. through D. of E. with such comments and recommendations as may be considered necessary. On the return of the file, after the necessary Air Ministry action has been taken, a copy of the Air Ministry decisions, if any, is to be sent to the Inspector for his information. Cards for each station are to be maintained at headquarters, on which all matters of major importance connected with the inspection of the danger buildings are to be noted and the registered numbers of the relevant files entered.

Construction and Siting of New Danger Buildings and/or Alterations to Existing Danger Buildings

8. In addition to the periodical inspection of explosives and danger buildings, it is the duty of the A.I.D. Inspector of Explosives to submit to the A.O.C. technical advice on the siting and construction of projected danger buildings or on alterations to existing danger buildings. For this purpose he will be a member of all boards assembled in an area or command to consider such schemes, and it will be his duty, as the A.I.D. member, to see that the recommendations of the board either (i) do not involve any contravention of the Explosives Regulations, or (ii) draw the attention of higher authority to any contravention contained in their recommendations. He is also responsible for calculating, for the board's information, the internal measurements required in each danger building to render it capable of housing the quantities of explosive for which the building is intended. He will obtain a copy of the board's final recommendations and retain it in his station file.

9. On receipt at A.I.D. headquarters of correspondence from areas or commands, relating to proposals for new danger buildings or alterations to existing buildings, any ruling involving departure from the Explosives Regulations is to be noted on the station card together with the file reference number.

INSPECTION ON CERTAIN A.M. CONTRACTS PLACED ON BEHALF OF THE ADMIRALTY

1. Contracts for bombs, bomb components and pyrotechnics for use of the Fleet Air Arm are placed by the Air Ministry on behalf of the Admiralty.

2. Some of these contracts quote the Chief Inspector of Naval Ordnance and the Director of Aeronautical Inspection as joint inspecting authorities, others quote the Chief Inspector of Naval Ordnance as the sole inspecting authority. Where joint inspection is to be carried out, the procedure will be that detailed below. Where the Chief Inspector of Naval Ordnance is quoted as the sole inspection authority, A.I.D. action will be confined to the solution of any queries submitted by him to the Air Ministry.

3. D.A.I. is responsible for the inspection as far as air-functioning is concerned, where joint inspection is called for :—

(i) With bombs and pyrotechnics, this consists of ensuring that they can be carried with safety on service carriers, that they will have the necessary stability and will take the correct flight path when dropped, and that they can be fitted with standard components. It involves test for fitting to a carrier either by trial or by gauging suspension lugs, checking the test figures for material used in the lugs and inspecting the means of securing the lugs in position, gauging of profiles, testing for concentricity, checking alignment of vanes, gauging parts to which components are fitted, and checking the maximum diameter and the weight.

(ii) With bomb components, it consists of ensuring that they will fit the bombs and other components, and that the moving parts will operate satisfactorily during free flight. It involves the gauging of external screw threads and testing for functioning.

4. As full inspection of the stores will be carried out by a representative of C.I.N.O., A.I.D. inspection need only consist of inspection, as outlined in para. 3, of the first deliveries off a contract and, if the initial inspection is satisfactory, check inspection of a proportion of the remainder.

5. On receipt of one of these contracts, the headquarters branch concerned will ascertain from C.I.N.O. :—

(i) when and where the deliveries will be ready for inspection ;

(ii) the address of his representative who will be responsible for his part of the inspection ; and

(iii) what gauges will be supplied and used by him.

6. On receipt of the information as at 5 (i) and (ii), the contract will be allocated to the appropriate A.I.D. Inspector, to whom drawings and specifications, together with the information received from C.I.N.O., will be passed. He should then get in touch with the responsible Inspector of Naval Ordnance and make such local arrangements as are necessary for the joint inspection.

7. It has been arranged with C.I.N.O. that his gauges will be available for use by A.I.D. staff, and, on receipt of the information as at para. 5 (iii), the headquarters branch will decide which are suitable and will make provision of any additional gauges required. The A.I.D. Inspector will be notified of the action taken.

8. On the satisfactory completion of the joint inspection, the responsible A.I.D. Inspector is to sign the following certificate on the Forms 530 :—

“Certified that the stores shown in the approved column have been examined and found suitable for R.A.F. service in as far as air-functioning is concerned.

Date.....

for D.A.I.”

DISTRIBUTION OF A.I.D. DUTIES AT A RESIDENT AIRCRAFT STATION—ORGANIZATION CHART

1. A wall chart of the approved type is to be maintained in the office of the Inspector-in-charge at each resident aircraft station.

2. This chart is to show :—

(i) the distribution of duties amongst the A.I.D. staff at the station ;

(ii) the work actually under construction in the contractors' shops.

3. A standard form of chart may be obtained from headquarters for guidance in the preparation of a similar chart at each station.

4. It is the direct responsibility of the Inspector-in-charge to distribute the A.I.D. staff at a station in such a manner as to cope most efficiently and economically with the requirements of contract output and to ensure that the staff becomes interchangeable throughout the station. It must also be constantly borne in mind that it is the urgent duty of the Inspector-in-charge to report immediately to I.A.2, whenever there is any likelihood of staff becoming redundant. The careful compilation and maintenance of the chart at each station will enable the Inspector-in-charge to anticipate his staff requirements accurately.

5. The following notes are for guidance in compiling and maintaining the chart :—

(i) The division of duties at a station into three groups—A, B and C—is based on the requirements of A.I.D. Inspection Instruction No. A1.

(ii) The distribution of staff, as shown in the upper portion of the chart, is an illustrative example, which will be applicable in its entirety at certain stations ; at others it will be necessary to effect some modification (e.g., the chart indicates two Chief Examiners, one for Group B duties and one for Group C ; at a station where there is only one Chief Examiner, the chart must be modified so that both the groups appear under his control).

(iii) Included in the schedules of Groups B and C duties there is prepared space in which to tabulate the quantity of work in actual construction. Components in course of reconditioning are to be considered as " new " components. The quantities of the various components in

production and the quantity of aircraft in the erection stage are to be inserted monthly, the figures being those for the first Monday in each month.

(iv) Co-operation with the progress and/or planning departments of the contractor will materially assist in correct compilation of the chart.

INSPECTION OF EXPERIMENTAL, PRIVATE VENTURE, DEVELOPMENT AND PRODUCTION AIRCRAFT, TOGETHER WITH INSTRUCTIONS CONCERNING FLIGHT TRIALS

Experimental aircraft

1. The first aircraft of a new type is regarded as experimental. Owing to the fact that a full and complete set of drawings is not normally available when such an aircraft is constructed, it will be certified only for "workmanship and materials". Before finally accepting an experimental aircraft, the Inspector is to satisfy himself that it does in fact conform to the drawings and/or sketches submitted to, and approved by, the Director of Technical Development for checking of stress calculations.

2. Where the constructor is made solely responsible for the design and construction of the aeroplane to the requirements of the specification and for the fulfilment of the requirements as regards workmanship and material, the effect is to leave the aircraft designer with an entirely free hand, but D.T.D. still retains the right to check the design for strength and safety. The essential duty of the Inspector-in-charge, A.I.D., is to verify that the requirements of D.A.I. as regards workmanship and material, are fulfilled by the contractor.

3. The specification, in referring to manufacture in quantity, requires that the design, construction and materials of the aeroplane shall be such as to facilitate its manufacture in quantity. D.T.D. requires that the R.T.O. shall report to him any point which appears to mitigate against the construction of an efficient aeroplane, and the R.T.O. is, therefore, to maintain close touch with the Inspector-in-charge. It follows also that the Inspector-in-charge shall maintain close liaison with the R.T.O. on all such contracts.

4. Compliance with the specified delivery date is a very important requirement on these contracts, some of which go so far as to include a penalty clause in respect of failure to deliver to the specified date. It follows that Inspectors-in-charge, A.I.D., must ensure the avoidance of inspectional delays at all times, both on actual operations of inspection, which must be performed with expedition, and on queries arising therefrom, which might tend to hold up constructional progress.

5. In the event of a suggestion arising of any difficulty or delay attributable to A.I.D. action, report must be made to C.I.A., in order that the matter can be cleared at once. It is to be remembered always that the prevention of delays on such contracts is a requirement of vital importance.

Private Venture Aircraft

6. A constructor may decide to produce an aircraft as a speculation. If the Air Ministry is sufficiently interested, the Inspector-in-charge, A.I.D., at the constructor's works will receive the usual "instructions to inspect". Such an aircraft is referred to as a "private venture" aircraft and will be treated as an "experimental service" or a "type civil" aircraft. The instructions to inspect will normally indicate the manner in which it will be dealt with.

Development Aircraft

7. Aircraft constructed against Air Ministry contract immediately following the construction of the "experimental" aircraft, but prior to the issue of the D.I.S. for that type, are regarded as "development" aircraft. Such aircraft will be inspected for "materials and workmanship" and conformity with the drawings enumerated on a schedule produced by the constructor and certified by D.T.D. as incorporating all his requirements.

Production Aircraft

8. Aircraft, constructed against an Air Ministry contract, of a type for which the master drawings have been sealed by the issue of a D.I.S., are known as "production" aircraft. Such aircraft will be inspected against the drawings referred to in the D.I.S. and for conformity with all specifications referred to in the contract and drawings relative thereto.

Flight Tests of Aircraft in General

9. When flight tests are called for the procedure laid down in the following paragraphs is to be strictly applied by all A.I.D. staff concerned. Before issuing the certificate of safety for flight, the Inspector is to satisfy himself that :—

(i) the aircraft has been constructed in accordance with approved drawings ;

(ii) the aircraft has been weighed and the centre of gravity determined, and that the aircraft prepared for flight is so loaded that its weight and centre of gravity comply with the provisions of the design certificates.

It is within the discretion of the A.I.D. Inspector to revoke the certificate of safety for flight at any time.

Service aircraft which have been delivered by air to a contractor's works and are subsequently collected by a service pilot require a certificate of safety for flight to cover the return flight, as laid down in Leaflet P.10.

10. A certificate of safety for flight (A.M. Form 1090), when issued prior to the first flight of any aircraft, will remain in force until either (i) alterations, repairs or adjustments, are made to the aircraft, or (ii) the aircraft is required to be

flown by an Air Ministry pilot or delivered by air. As regards (i), after the necessary work has been carried out the aircraft will be re-inspected. If the alteration is of a major nature and could be classified as a modification, a fresh design certificate must be obtained. If the alterations are only of a minor nature, the certificate of safety may be renewed by re-signing and re-dating. As regards (ii), a fresh certificate of safety must be issued on each day on which a test flight is to be carried out by an Air Ministry pilot at a contractor's aerodrome and/or immediately prior to the delivery flight.

11. Before an Air Ministry aircraft is flown at a contractor's aerodrome both the aerodrome and pilot must have been approved in writing by D. of C.

12. Where other than production aircraft is involved, it is important that sufficient notice be given by the Inspector-in-charge A.I.D., to the R.T.O. (or Airworthiness Department, Royal Aircraft Establishment, in the case of an unapproved designing contractor to whom no R.T.O. has been allocated) in order that the above procedure may be carried out and the necessary forms completed prior to the flight test.

Instructions for the Authorization of Tests of Aircraft

13. The instructions given below cover the authorization of flight trials of aircraft falling under the following four categories :—

(i) Contractor's flight trials of an experimental aircraft constructed for the Air Ministry under contract.

(ii) Contractor's flight trials of development or production aircraft constructed for the Air Ministry under contract.

(iii) Flight trials carried out by Air Ministry or R.A.F. pilots on aircraft built by private enterprise and in which the Air Ministry has signified its interest.

(iv) Official flight trials of civil aircraft for the purpose of a certificate of airworthiness.

Contractor's Flight Trials of an Experimental Aircraft, constructed for the Air Ministry under Contract

14. Contractors are not permitted to carry out any trial flights on an aircraft constructed to Air Ministry contracts, nor is any R.A.F. pilot permitted to fly such aircraft before delivery, until a certificate of safety for flight has been obtained from the Inspector-in-charge, A.I.D., on A.M. Form 1090. This certificate may only be issued when the Inspector is in possession of a design certificate from D.T.D. on Form 1187 Service, issued direct to him by the R.T.O. responsible for the supervision of the design of the aircraft on behalf of D.T.D.

15. (i) Where the constructor has been made solely responsible for the design and construction of an experimental aircraft, the Air Ministry continues to accept liability during flight of the aircraft in contractor's flight trials in the normal manner and A.M. Form 1090 procedure will apply.

(ii) The design certificate (Form 1187 Service) for these trials will be completed and signed by the contractor's chief designer, the words " for Director of Technical Development " below the signature in the design certificate being deleted. The R.T.O. having satisfied himself in regard to its compilation will pass a copy of the certificate to the Inspector-in-charge, A.I.D.

(iii) The Inspector-in-charge, A.I.D., will obtain from the contractor's chief designer the necessary particulars of the position and weight of the ballast required to ensure the correct disposition of the C.G. of the aeroplane for all flights by the contractor's pilots prior to the delivery flights. For all delivery flights and flights by R.A.F. personnel, however, this information will be obtained from the R.T.O.

Delivery Flight to an Experimental Establishment for Official Trials

16. The R.T.O. will complete and sign on behalf of D.T.D., the design certificate for the delivery flight to an Experimental Establishment—or for a flight by service personnel—ensuring in the compilation of the certificate that all design information required by the Inspector-in-charge, A.I.D., for the issue of the certificate of safety for flight (A.M. Form 1090) is available.

Clearance for Contractor's Flight Trials subsequent to the Original Contract Trials

17. (i) After preliminary trials by the Experimental Establishment alterations may sometimes be necessary before the experimental aeroplane can be accepted by D.T.D. If these alterations require further flight trials by the contractor then the design certificate of safety for such trials will be given by the contractor.

(ii) If, after the aircraft has been delivered to a Service Experimental Establishment, it is returned to the contractor's works for alteration within the requirements of the contract, design certificates will be required as under para. 15.

(iii) Alterations not falling within the requirements of contract will not normally be called for until after the aircraft has been finally accepted under the contract ; but, if they should be so called for subsequent to the commencement of the contractor's flight trials, the design certificate (Form 1187 Service) covering such alterations will be issued by the R.T.O., but the certificate from the contractor's chief designer referred to in para. 15 above will not be required.

(iv) Before delivery again to the Experimental Establishment or before further flights by service personnel the R.T.O. will give the design certificate of safety.

(v) After acceptance of the experimental aeroplane by D.T.D. the design certificate for any flight trials which may be necessary will be issued by the R.T.O.

Contractor's Flight Trials of Development or Production Aircraft, constructed for the Air Ministry under Contract

18. (i) As regards Air Ministry development and production aircraft when the aircraft and its equipment are in all essential respects similar to the "type" aircraft which has been certified by the R.T.O. under the procedure given in paras. 14 and 15 above, the Inspector-in-charge, A.I.D., may authorize the contract trials flights without obtaining a fresh design certificate.

(ii) In certain circumstances, the Inspector-in-charge is authorized by the particular contract conditions and concurrently by C.I.A., to resort to "selective flight testing" of airframes, provided he is satisfied that "selective flight testing" will not react adversely on the safety or correctness of the airframes. Recourse to this procedure is possible only when a contractor has produced a number of airframes of the same type and their flight tests have furnished definite evidence that no faults, difficulties, etc., have resulted. The Inspector-in-charge must satisfy himself that the required standard of construction and inspection is maintained and that where more than one rigging and/or inspection squad is operating on the contract, the efficiency of each squad is maintained notwithstanding possible changes in personnel. Having satisfied himself on the above basis, the Inspector-in-charge, will, at the beginning of the contract, call for flight testing of a large proportion of the aircraft which are to be delivered as airframes gradually reducing this proportion until towards the end of the contract it has reached a minimum. The airframes to be so tested should be selected at random by the Inspector-in-charge at the time when engine installation is about to be made, due consideration being given to "production" in order that the contractor is not put to any cost other than that automatically incurred in the preparation for and the actual flight testing of the airframe.

(iii) Where the flight test of an airframe has been waived the following procedure will obtain:—

(a) The airframe will still require to be erected and an engine or dummy installed, all pipe lines, etc., being connected up and the systems tested, where practicable, before acceptance in accordance with usual practice.

(b) The "airframe" certificate in the log book will be completed and a notation—to be made in red ink—will be inserted in the "remarks" space to the effect that the

airframe was not flight-tested at the contractor's works. (The " Aeroplane " Certificate in the log book is to be left blank).

(c) The procedure at (b) above is to be applied also to the airframe history record (A.M. Form 827).

(d) When making application for airframe allotment, A.M. Form 653 will be endorsed by the Inspector-in-charge as follows :—

" This airframe has not been flight-tested and is to be dealt with in accordance with A.M. letter reference 88980/31, dated 22.2.1933."

(e) A set of blank copies of flight-test report form (A.M. Form 1361) will be enclosed in the airframe log book, for completion by the pilot carrying out the flight test when an engine is ultimately installed. These reports when received at the Air Ministry will be eventually notified to the Inspector-in-charge for information and guidance.

19. Should any major alterations have been made which would normally be classified as modifications, but for which no modification approval has been issued, the Inspector must obtain a fresh design certificate for the first of the development or production aircraft embodying the alteration or alterations.

20. A.M. Form 1361 is to be used for the purpose of recording the results of flight trials of service production, reconditioned and repaired aircraft. A.M. Form 1362 is provided by D.T.D. for the same purpose for experimental, first development and first production aircraft. A.M. Form 1361 is to be rendered in duplicate. The contractor's pilot should complete and sign both copies and the distribution is as follows :—

(i) The original will be pasted in the copy of A.M. Form 827, which is forwarded to headquarters, in the page allotted for " Flight Trials ".

(ii) The duplicate is to be retained by the Inspector-in charge, A.I.D., at the station for reference.

Flight Trials by Air Ministry or R.A.F. Pilots on Private Venture Aircraft

21. Aircraft built by private enterprise in which the Air Ministry has signified its interest may be flown by a civilian pilot without any A.I.D. authority, subject to compliance with the Air Navigation Regulations. When, however, it is necessary in the course of duty for personnel of the Air Ministry or Royal Air Force to fly in an aircraft built by private enterprise, a certificate of safety for flight (A.M. Form 1090) must be obtained before the flight is commenced. The Inspector-in-charge, A.I.D., will issue the certificate of safety under the same procedure as detailed for experimental service aircraft.

22. For aircraft constructed as private ventures for which flight trials are to be made under loan agreement by R.A.F. pilots, design certificates (Form 1187 Service) and certificates of safety (A.M. Form 1090) will be issued prior to delivery to a R.A.F. Experimental Establishment and/or prior to flight by a R.A.F. pilot. The issue of Form 1187 Service will in all instances be preceded by the submission by the contractor's chief designer of a type record, as required for experimental aircraft, constructed under an Air Ministry contract.

Official Flight Trials of Civil Aircraft for Purposes of a Certificate of Airworthiness

23. (i) Aircraft which are the subject of investigation for a "Type" certificate of airworthiness may be flown without any A.I.D. authority, subject to compliance with the Air Navigation Regulations. When, however, an Air Ministry pilot is required to carry out the official flight trials of the aircraft in accordance with Air Navigation Directions, a certificate of safety for flight (A.M. Form 1090) must be obtained before such trials are commenced.

(ii) Official flight trials on these aircraft may be authorized to take place either at the constructor's aerodrome or at one of the official testing stations and it is the responsibility of the Director of Technical Development (R.D.A. 6) to authorize these trials. The procedure to be followed in either case is set out below :—

(a) The supervising Inspector will not issue the certificate of safety for flight for official flight trial until such time as he has received the design Certificate Form 1187 (Civil), which will be issued by the Resident Technical Officer.

(b) When the aircraft has been constructed by a firm whose design organization has not received D.T.D. approval and the aircraft is to be flown to an official testing station for official flight trials, a "permit to fly" will be issued by the R.T.O. concerned, or by Airworthiness Department, R.A.E., and the A.I.D. supervising Inspector will not issue A.M. Form 1090 until in receipt of this permit. Conversely, the "permit to fly" is not valid unless a current A.M. Form 1090 is available. "Permits to fly" are not required where firms have received design approval.

A.I.D. DUTIES IN CONNECTION WITH ALTERATIONS IN THE DESIGN OF AIRCRAFT

1. Alterations to the design of airframes, airscrews and miscellaneous equipment may be introduced :—

- (i) in the type design stage ;
- (ii) in the development stage ; or
- (iii) in the production stage.

Alterations introduced in (i) or (ii) stages do not concern A.I.D. in any way, but alterations introduced in stage (iii) do concern A.I.D. Such alterations to the design of aircraft, airframes, airscrews or miscellaneous equipment, including tools, repair parts and other items, embraced by the Repair D.I.S. for each type of aircraft which have reached the production stage and for which a D.I.S. has been finally sealed, are divided into two categories, namely, modifications and amendments.

2. A modification is a change in design at the production stage, which (i) affects one or more of the following :—

- (a) interchangeability ;
- (b) operational considerations ;
- (c) safety ;
- (d) date of delivery or cost ;
- (e) primary considerations of design :

(ii) is to be applied to aircraft already with service units ; or

(iii) is for any other reason specifically desired to be treated as a modification.

3. An amendment is a change in design at the production stage not falling under any one of the heads given in para. 2.

4. The terms used in para. 2 (i), sub-paras. (a), (b) and (c) are defined as follows :—

(a) Interchangeability is to be regarded as affected when an alteration (a) involves the alteration or scrapping of any item held in service stores ; (b) renders it necessary to add a fresh item of stores ; or (c) affects the functioning of any item. The degree of sub-division of spare parts, which covers the application of this definition, is settled by the official spare part schedules, in which a reference number is given to each item held as a spare part.

(b) Operational considerations are to be regarded as affected, where there is sufficient change in weight, head resistance or controls as to affect the performance, range or manoeuvrability of the aircraft, or changes in design, which will affect the crew of the aircraft in the execution of their duties.

(c) Safety is regarded as affected, where strength, fire precaution, reliability of engine system or any other airworthiness consideration is involved, either adversely in any way, or beneficially in such a way as to render obsolete the part replaced.

5. Normally, modifications are dealt with by D.T.D. branches at the Air Ministry and referred to the Modifications Committee (airframes, airscrews and miscellaneous equipment); but where a modification of small extent is essential on account of change in some detail of the engine or in embodiment loan equipment, and delay in delivery would result if reference were made in the first instance to D.T.D. branch concerned and a decision awaited, the R.T.O. may, after obtaining the concurrence of the resident Inspector-in-charge, A.I.D., give the contractor instructions to proceed on Form 1262, provided the modification does not affect interchangeability so far as existing spares are concerned.

6. (i) Modifications which it is desired to include in production specifications in advance of "final approval", will be listed in the production specification issued as a basis of the contract and will be marked "for embodiment in accordance with drawings technically approved by D.T.D." Modifications not yet finally approved will only be included in production specifications when application to the particular contract has been agreed to be essential by the Airframe Modifications Committee. All possible action is to be taken by those concerned to expedite the technical approval of modifications so specified.

(ii) D.T.D. technical approval of the drawings of such modifications will be given by the R.T.O. when the firm has produced drawings of the modification in a form suitable for inclusion in the D.I.S. It will be the responsibility of the R.T.O. to ensure that the modification is in accordance with Air Ministry requirements and complies with all instructions given for its preparation. He will also obtain the concurrence of the A.I.D. Inspector-in-charge from the point of view of inspection.

(iii) The approval will be given on a cover sheet listing the drawings concerned and stating that they are technically approved for the incorporation of Modification No..... under Contract No..... as required by Specification No..... or Contract letter No.....

(iv) This technical approval can be given before the modification sheets giving directions for the modification of existing drawings are prepared. Copies of this approval will be issued as follows :—

(a) One copy to the Air Ministry (R.D.A. 1 or R.D.A.2).

(b) Two copies to the A.I.D. Inspector-in-charge, who will thereby be authorized (subject to sub-para. (v) below) to certify incorporation of the particular modification before it is "finally approved."

(v) "Technical approval" in itself gives no authority for embodiment. In placing the contract, agreement regarding the price of a number of modifications listed in the specifications as "subject to technical approval of the drawings by D.T.D." may be deferred until full details of the modification are known. In these cases the A.I.D. Inspector-in-charge will take action to initiate the issue of contract instructions for incorporation of the modifications in question. On receipt of the contract instructions the A.I.D. Inspector-in-charge will proceed with certification and will forward to E.1 a copy of the technical approval after it has been endorsed to show the serial number of the first aircraft in which the modification has been incorporated.

(vi) In recording in the Airframe Log Book the advance embodiment of any modification under this procedure, the modification will be given by its number with the addition of the word "Preliminary".

(vii) After technical approval for embodiment has been given as described above, the preparation of the modification will continue and it will be submitted in its complete form to the R.T.O., A.I.D., and Air Ministry.

7. D. of C. will issue instructions for the modification to be prepared on the Air Ministry standard form. When any trials that may be necessary have been completed, tracings will be prepared by the Drawing Office instructed to deal with the modification. After approval by the R.T.O. and concurrence by the resident A.I.D. Inspector-in-charge as regards inspectional matter, two blue print copies will be forwarded by the Drawing Office to R.T.P.

8. D. of C. will inform the contractor of the approval or otherwise of all modifications irrespective of their application. Until the contractor has received the above notification from D. of C. it is not normally permissible for the modification to be embodied in the master tracings, nor for parts to the altered design to be manufactured.

9. An amendment, as defined in para. 3, may be prepared by the contractor on the authority of the R.T.O., who, after he has obtained the concurrence as regards inspectional matters of the resident A.I.D. Inspector-in-charge, will be responsible for the final approval of the amendment and for decision as regards its incorporation in master tracings and in aircraft. Under para. 3 he is, however, excluded from authorizing incorporation in aircraft already with service units.

10. The Inspector-in-charge, A.I.D., is to scrutinize the modification, draft A.M. Order or amendment, with a view to ensuring that full information appears therein to enable complete inspection to be carried out. For this purpose the following conditions should be fulfilled :—

(i) All materials to be employed should be fully specified, or reference given to the appropriate specifications.

(ii) Dimensions should be fully shown and tolerances, where other than standard, expressly stated.

(iii) Adequate means of inspection should be provided, and needlessly complicated or costly methods of inspection should not be involved.

(iv) Any S.I.S applicable is to be quoted on the drawings.

11. When the Inspector-in-charge has satisfied himself as to the foregoing and any other matters affecting inspection, he is to sign the modification sheet "for D.A.I." in the space provided for technical approval.

12. Should the scrutiny reveal any inspectional difficulties, the Inspector is to refer the matter to the R.T.O. in order that the requisite alterations may be made.

13. In the event of difficulty being experienced in meeting the inspectional requirements, the Inspector-in-charge is not to sign the modification sheet, but will refer the matter to headquarters for decision.

14. Where the A.I.D. Inspector and the D.T.D. representative are one and the same person, he is to scrutinize modifications and amendments from both aspects, and to sign twice, once "for D.A.I." and once "for D.T.D."

15. Before approval for any modification is given, trial in flight is to be made of every modification which can in any way affect :—

(i) The operation of any portion of the aircraft, its engine or equipment in flight.

(ii) The performance of his duties by any member of the crew.

(iii) The comfort of any member of the crew.

(iv) The loading of the aircraft or securing of any part of the load.

Every other modification is to be tried in its actual form on an aircraft in which all approved modifications in the region affected by the proposed modifications have already been embodied.

DUTIES OF A.I.D. IN CONNECTION WITH AIRCRAFT DESIGN MEMORANDA AND STANDARD INSTRUCTION SHEETS

1. Aircraft design memoranda are the media by which the D.T.D. publishes his design requirements. Such memoranda cover a very wide range of information and data, which are normally applicable not only to complete aircraft, but also to numerous components.

2. It is to be clearly understood, however, that an aircraft design memorandum does not, by itself, constitute authority for the alteration of any contract to which it may be applicable; its provisions cannot be enforced on a production contract unless supported by an amendment to contract or other written authority from the D. of C.

3. It is the duty of the Inspector-in-charge :—

(i) to acknowledge receipt of each Aircraft Design Memorandum direct to A.D./R.D.A. Air Ministry ;

(ii) to consider the requirements of each Memorandum and to discuss with the R.T.O. its effect upon supplies ordered under Air Ministry contracts that may be held by the contractor ;

(iii) to submit to D.T.D. conjointly with the R.T.O. without delay proposals arising from (ii) above. The letter is to be signed by the R.T.O. and the Inspector-in-charge and will be forwarded to the D.T.D. by the former ;

(iv) if for any reason the Inspector-in-charge is unable to arrive at an agreement with the R.T.O. regarding (ii) above, the matter is to be reported immediately to A.I.D. headquarters.

4. A number of Aircraft Design Memoranda, however, have been cancelled by D.T.D. and the subject matter transferred to A.P.970, " Design Requirements for Aeroplanes for the Royal Air Force ". It is envisaged that A.P.970 will become, so far as is practicable, the sole reference to the requirements, which have been promulgated in the past in the form of A.D.M's.

5. The bulk of the requirements set out in the several chapters of A.P.970 are not the direct concern of A.I.D. Inspectors-in-charge. Chapter 4 of the publication, which is confined to non-factor requirements, does, however, include matters that should be available to A.I.D. Inspectors-in-charge, e.g. :—

" Identification Markings on Control Surfaces,"

" Cables in Control Systems,"

- “ Locking of Controls,”
- “ The Use of Castings,”
- “ Welding of Steel Parts,”
- “ Provision of Fillets in Metal Sections,” etc., etc.

6. I.G. will issue direct to the Inspector-in-charge a copy of Chapter 4 of A.P.970 and the amendments applicable to this chapter will also be issued to the Inspector. If the Inspector-in-charge should require access at any time to the remainder of this publication, he should refer to the R.T.O. who maintains the complete publication.

Standard Instruction Sheets

7. Standard Instruction Sheets (S.I.S.) are issued by R.T.P. These deal with, describe, or provide information on, sundry matters which have become standardized and are generally adopted by aircraft constructors. The application of these standard instruction sheets is as detailed hereunder :—

(i) *Experimental aircraft*.—All S.I.S. that are current at the time of placing the contract are mandatory to experimental aircraft ordered on Air Ministry contracts in the same manner as Aircraft Design Memoranda, and any S.I.S. issued during the course of the contract should be applied to these aircraft when possible.

(ii) *Development and production contracts*.—Such S.I.S. as are applicable to aircraft under construction against development or production contracts will be quoted on relevant drawings approved by the R.T.O. for use on such contracts. Only those S.I.S. so included can be regarded as mandatory for aircraft off production contracts.

(iii) Where a D.I.S. is not available at the commencement of a production or development contract, Inspectors-in-charge will obtain from the R.T.O. a list of the S.I.S. which are applicable.

(iv) No S.I.S. issued whilst the contract is in progress is to be introduced unless covered by amendment to contract, but, where Inspectors-in-charge consider it desirable that any S.I.S. should be introduced, they should refer the matter to the R.T.O. in order that he may arrange for the introduction thereof by drawing amendment or modification.

**PREPARATION OF NON-AERONAUTICAL SPECIFICATIONS,
THE EXAMINATION OF TENDER SAMPLES, THE CONTROL
OF THE AIR MINISTRY PATTERN ROOM AND ADMIN-
ISTRATION OF THE A.I.D. TEST HOUSE**

1. *Preparation of non-aeronautical specifications.*—In general, D.T.D. does not deal with non-aeronautical equipment or stores. For such items A.I.D. act as technical advisers to D. of E., and this duty devolves on C.I.S. as the division technically directing that class of inspection. As a part of this duty C.I.S. is responsible for preparing, in collaboration with D. of E., specifications for non-aeronautical equipment and stores, for which suitable standard specifications do not exist.

2. *Examination of tender samples.*—In considering tenders for non-aeronautical supplies, it is frequently necessary to call for samples from one or more tenderers. Such samples are dealt with by C.I.S. through the Inspection Bond at No. 1 Stores Depot. The bond examine the samples and report as to the extent to which each conforms to or departs from the standard demanded. The I.S. branch concerned then decides which is the cheapest satisfactory sample and reports accordingly to the appropriate Contracts branch.

3. *Control of Air Ministry Pattern Room.*—C.I.S. controls the Air Ministry Pattern Room and is responsible for the administration of the A.I.D. Test House.

RELATIONS BETWEEN A.I.D. AND D. OF C. BRANCHES

1. The duty of obtaining supplies of equipment and stores for the Royal Air Force rests with the D. of C., which relies on the A.I.D. to ensure that no such supply is accepted unless it conforms to all the stipulations of the contract. The necessity for verifying that every provision of the contract is fulfilled has been already pointed out in Section A.

2. Simultaneously with the issue of any contract subject to A.I.D. inspection, two copies are provided for the A.I.D., one copy for headquarters and one for the outstation concerned. It is the duty of the relevant branch to scrutinize the headquarters' copy in order to satisfy itself that the provisions suffice to ensure that inspection can be properly carried out. If they do not so suffice, the branch will immediately take up the matter in writing with the originating Contracts branch, giving full details of any amendment or amplification required from an inspectional standpoint. Such action must be prompt, in order to minimise the risk of work being begun before the alteration can be promulgated. In view of the prior scrutiny of all requisitions, such occurrences should be uncommon, but close scrutiny of every contract is still imperative.

3. The D. of C. maintains lists of contractors considered capable of the satisfactory production of the various classes of Air Ministry supplies. A.I.D. Inspectors-in-charge are often required to report upon the suitability of firms for inclusion in these lists. The procedure to be adopted is detailed in A.I.D. Inspection Instruction No. S.205.

LOCAL REPRESENTATION OF THE DIRECTOR OF CONTRACTS BY A.I.D.

1. When the D. of C. requires resident representatives as works production officers at contractors' works, such assistance is provided by appointing certain A.I.D. Inspectors-in-charge to act for D. of C. Such appointments are personal and do not automatically follow appointment as A.I.D. Inspector-in-charge of a station. Each individual receives from D. of C. personal notification in writing of his appointment, and cannot delegate these duties to anyone else. When a new resident station is to be opened at which D. of C. may wish to have a representative and when an existing representative is to be replaced by another Inspector, the head of the division concerned will notify D. of C. in advance. All instructions affecting these special duties are issued by the Director of Contracts directly to the Inspectors so appointed; and all correspondence, reports, etc., relating to such duties are rendered directly to D. of C. In neither direction will such matters pass through, or be dealt with by, A.I.D. headquarters. The duties consequent upon these appointments in no way absolve the individuals concerned from any part of their responsibility for their A.I.D. duties. Should the Inspector find that the additional work necessitated for D. of C. interferes with the execution of his A.I.D. duties, he is immediately to report the fact to the head of his division at A.I.D. headquarters. Further, should this special work occupy at any period more than 20 per cent. of his total working time, a report to that effect is to be made to the head of the division.

2. As works production officer, it is one of the duties of the A.I.D. Inspector to ensure compliance with the regulations governing visits of the contractors' representatives to R.A.F. units and Experimental Establishments. Form 248 is to be used in connection with these visits and it is desired to emphasize the principal points in so far as they affect the works production officer at an A.I.D. resident station. The works production officer is the custodian of Form 248, the initial issue of which will be made by A.M.P.D.; further supplies can be obtained from the same source as required. The form will be used by the contractor generally when his representatives desire to visit R.A.F. units, and will be issued to him by the W.P.O. as required. It is to be noted specially that the W.P.O. will complete Part II of the form only upon occasions when he is in possession of contract instructions authorizing the firm's representatives to carry out work at R.A.F. units. In all other instances, there will be no action required upon the part of the W.P.O. other than to issue copies of the form as required.

3. Whenever a contractor, in submitting Form 315 covering loss or damage to items on embodiment loan, disclaims responsibility for such loss or damage, and the A.I.D. Inspector, as works production officer, disagrees with the disclaimer or is in doubt, the latter is to forward a report with the relevant Form 315, setting out his view of the matter. Reference to the Inspector's report is to be made on the Form 315 itself at the time the Inspector countersigns the form.

**REPORTS TO D. OF C. ON INSPECTIONAL DIFFICULTIES
CAUSED BY FAULTY EXECUTION OF CONTRACTS**

1. It is essential that reliable information shall be available whenever inefficiency or other shortcomings on the part of a contractor create undue difficulties in inspection, and/or excessive inspectional costs.

2. For this purpose, Inspectors-in-charge offices, bonds and resident stations are to report every such shortcoming without fail, using A.M. Form 1344. A separate form is to be used for each contract.

3. Where contracts are allocated wholly for inspection after delivery to a stores depot, it is for the Inspector-in-charge, when he is himself not in a position to assign the true reason for the contractor's unsatisfactory performance, to request the appropriate A.I.D. office to investigate and advise him.

4. The form is to be made out in duplicate. One copy is to be retained by the originating Inspector for his records, the other forwarded to the headquarters branch technically directing inspection of the contract concerned.

5. The head of the branch will add his remarks and submit to the head of the division, who will insert any comments he has to offer. The form will then be passed under cover to the Contracts branch which placed the contract.

RELATIONS BETWEEN A.I.D. AND THE D.T.D.

1. The main function of the D.T.D. is to ensure that the design of all aeronautical equipment for the Royal Air Force is sound. D.T.D. controls the R.A.E. and R.A.W.

2. (i) It is therefore essential that whenever, in the course of inspection, any matter arises which concerns or affects design in any way, it shall be reported to D.T.D. Such reference will be made by the Inspector-in-charge, A.I.D., directly to D.T.D.'s local representative (the Resident Technical Officer) where one exists. Where the contract is for experimental equipment and the Inspector has been appointed D.T.D. representative, he is to refer directly to the appropriate D.T.D. branch: otherwise to the appropriate A.I.D. branch, which will transmit the report to the D.T.D. branch. When reporting directly to D.T.D., the Inspector will send a copy to the A.I.D. branch concerned.

(ii) In connection with supplies of Air Ministry or proprietary design which are purchased from firms other than the designing firm, difficulties in manufacture sometimes arise due to a drawing or specification requirement. In many instances these difficulties can be overcome, without detriment to the efficiency of the part(s), by slightly varying the requirements. Where there is no D.T.D. representative at the designing firm's works, the supervising A.I.D. Inspector is to report all such instances, using A.M. Form 1393 for this purpose. Reports are to be rendered in duplicate and are to be forwarded to the technical branch at headquarters. On receipt at headquarters each report is to be scrutinized and if it is considered that the proposal represents a definite advantage from the production and manufacturing points of view, one copy of the report is to be passed to the relevant branch of D.T.D. with a recommendation for the adoption of the proposal.

LOCAL REPRESENTATION OF D.T.D. BY A.I.D.

1. Where the D.T.D. has no resident representative at a works or aerodrome, certain Inspectors-in-charge, A.I.D., may be appointed to act for D.T.D. in that capacity. Such appointments are personal, and do not automatically follow appointment as Inspector-in-charge of a station. Each individual receives from D.T.D. personal notification in writing of his appointment, and cannot delegate these duties to anyone else. When a new resident station is to be opened at which the D.T.D. may wish to appoint the Inspector-in-charge as his representative, and when an existing appointed representative is to be replaced by another Inspector-in-charge, the head of the division concerned will notify the D.T.D. in advance. All instructions affecting these special duties are issued by the D.T.D. directly to the Inspectors so appointed; and all correspondence, reports, etc., relating to such duties are rendered directly to D.T.D. In neither direction will such matters pass through, or be dealt with by, A.I.D. headquarters. The duties consequent upon these appointments in no way absolve the individuals concerned from any part of their responsibility for their A.I.D. duties. Should the Inspector find that the additional work necessitated for D.T.D. interferes with the execution of his A.I.D. duties, he is immediately to report the fact to the head of his division at A.I.D. headquarters. Further, should this special work occupy at any period more than 25 per cent. of his total working time, a report to that effect is to be made to the head of the division.

**A.I.D. RESPONSIBILITY WHERE DESIGN APPEARS TO
BE FAULTY**

A.I.D. staff are not responsible for questions of design, but when an A.I.D. Inspector in the course of his inspection duties has good reason to conclude that any article under inspection is unlikely to give satisfactory service, although made correctly in accordance with specification and drawings, it is his duty to draw attention to the matter. At stations where there is a R.T.O., the matter should be referred to him ; in other instances the A.I.D. Inspector will report the matter in writing to A.I.D. headquarters. Pending the conclusion of the consideration given to the matter by those to whom it is referred, it is not in order for the A.I.D. Inspector to refuse to accept the articles, provided they fulfil the conditions of the contract, but he should warn the contractor that the articles are of doubtful serviceability.

**DIVISION OF RESPONSIBILITY BETWEEN D.A.I. AND
D.T.D. IN THE INSTALLATION OF EQUIPMENT IN
AIRCRAFT**

1. The responsibility for the correctness of the installations and their functioning devolves upon D.A.I. and D.T.D., and their several duties are defined below.

2. These instructions cover the undermentioned categories of equipment and all other items not specifically detailed, which may be introduced from time to time :—

- (i) Electrical installations,
Wireless installations,
Instrument installations,
Armament installations,
Oxygen installations,
Photographic installations.
- (ii) Engine installations,
Fuel system,
Oil system,
Cooling system,
Ignition system.
- (iii) Miscellaneous equipment :—
Flotation gear,
Parachutes, safety belts and harness,
Automatic control systems,
Fire extinguishers, etc.

3. It has been agreed that the division of responsibility between D.T.D. and D.A.I. shall be as follows :—

- (i) D.T.D. will be responsible for :—
 - (a) the schematic arrangement of all installations, e.g., diagrams of bomb controls, electrical services, fuel systems, etc. ;
 - (b) the design and type of equipment installed ;
 - (c) the position and method of installing the items of equipment.
- (ii) D.A.I. will be responsible that :—
 - (a) equipment installed is of the design and type approved by D.T.D. ;
 - (b) the installation is in accordance with D.T.D.'s requirements :

Note.—Where measurements are necessary to ensure that these requirements have been met on the aircraft, D.A.I. will be responsible that they are made and that the results are reported in writing to D.T.D. (R.D.A4.) by the Inspector concerned prior to the final examination conference of the aircraft.

(c) the runs of piping, cables, etc., connecting items of equipment are satisfactory ;

(d) where possible, the functioning of the installation has been proved to be satisfactory by ground tests.

Note.—In order to comply with para. 3 (ii) (c) above, the layout of all runs of piping, cables, etc., and the positions of attaching clips, fairleads, etc., not included in the approval drawings, will be discussed by resident or supervising A.I.D. staff with the designer of the aircraft to ensure the production of an installation which will be ultimately acceptable by D.A.I. in so far as these features are concerned. Headquarters staff will keep in close touch with all aircraft affected by these instructions by means of periodical or special visits, and will give advice and technical directions if required.

4. *Mock-up.*—In most instances, a mock-up of the proposed aircraft is prepared by the contractor. After D.T.D. has discussed this at a conference, the decisions arrived at will be forwarded to the resident Inspector-in-charge through D. of C. Meanwhile diagrams of all installations will be prepared by the contractor and after approval by R.D.A.4 will be returned to the contractor.

5. The R.T.O. will be responsible that effect is given to the rulings of the mock-up conference, by means of the necessary drawings.

6. At this stage the draft Appendix A will be amended up to date, and after issue no deviations whatever, either as regards type or position of equipment, will be permissible, except when authorized in writing by the D. of C.

Experimental and Development Aircraft

7. A final examination on each experimental and the first development aircraft will be carried out by D.T.D. The aircraft is required to be fully erected and complete with all cowling, and to be fitted with all equipment in accordance with the Appendix A.

8. Before the R.T.O. proposes a date for the final examination conference to R.D.A.4 he will obtain the written concurrence of the Inspector-in-charge in the proposal. This will only be given when the Inspector-in-charge is reasonably satisfied that he will have completed the requisite inspection of the aircraft, including tests on the installation, by the proposed date. The Inspector-in-charge will be responsible that each and every published requirement for D.T.D., so far as it affects the work and processes laid down in para. (3) (ii) above, is met. In this connection stress is laid on the necessity for watching carefully the installations in their early stages.

9. It will be the duty of the A.I.D. Inspector to put before the final examination conference each and every point which may not be considered entirely satisfactory, although perhaps such points may be in accordance with the requirements of D.T.D.

10. The decisions of the final examination conference will be promulgated through D. of C., and where any alterations are required these will be called for by an amendment to contract.

11. Should difficulties arise which prevent full compliance, any departures will require to be regularised by further amendment action.

Production Aircraft

12. The responsibility that particulars of the installations and details finally approved on the experimental or development aircraft are recorded as far as practicable on the drawings rests with D.T.D. Inspection of production aircraft must only be carried out to such drawings, which must be previously approved by the R.T.O. Where drawings are impracticable, but the arrangement of equipment and the run of pipelines, etc., can be recorded by photograph, Inspectors-in-charge should take action to obtain photographs which will give a definite record of the installation arrangements. When required, applications for photographic facilities should be made to headquarters.

13. Whether drawings or photographs indicating details of pipe and cable runs are available or not, every precaution should be taken to verify that no departures exist from the runs inspected at the time of the final conference on the experimental or development aircraft.

14. In the event of a modification being introduced which affects the run of pipes or cables, the A.I.D. Inspector will be responsible for the altered runs and the details of installation in the same way as he is for an experimental aircraft.

**DIVISION OF RESPONSIBILITY BETWEEN D.A.I. AND
D.T.D., WHEN PRODUCTION AIRCRAFT IS ALLOCATED
TO D.T.D. FOR EXPERIMENTAL WORK AT AIRCRAFT
CONTRACTOR'S WORKS**

1. When a "production" aircraft is allocated to the Director of Technical Development for experimental work to be carried out at contractors' works or aerodrome, it is important that the aircraft should be maintained up to date so far as modifications are concerned, as it would be if on charge of a service unit.

2. Arrangements for the incorporation of modifications in service types of airframes and engines allotted to D.T.D. at aeroplane contractors' works are the responsibility of the R.T.O.

3. The R.T.O. will hold the log books. On arrival of the airframe or engine, the R.T.O. will see by inspection of the log books what modifications covered by Volume II, Part I, or other instructions for application to airframes or engines in service, have not yet been incorporated, and will take whatever steps are necessary for their incorporation. Modifications approved subsequent to the arrival of the airframe or engine are to be dealt with as they arise, but it is the duty of the R.T.O. to enter at once in the modification log of each relevant airframe or engine log book held by him particulars of every modification which is issued under cover of an order relating to embodiment in existing airframes or engines. It likewise rests with him to obtain authority, if necessary, to defer the embodiment of a modification to a more convenient time.

4. In each instance a contractor will receive from the Director of Contracts authority to proceed with the incorporation of modifications, and a copy of such authority will be passed to the Inspector-in-charge in the usual way.

5. Where an airframe or engine is allotted to a contractor other than the parent firm, the R.T.O. concerned will inform the D.T.D. representative at the parent firm of the last Log Book No. entered up and ask for information of any further entries necessary. He will also arrange to be kept advised similarly of the details of any further orders that may be issued on that type until the airframe or engine is allotted away. Application for the incorporation of such modifications should be restricted to those for which special instructions are given in the relevant leaflet or by the D.T.D. representative at the parent firm.

6. In addition to the general desirability of maintaining aeroplanes up to date, the incorporation of modifications in D.T.D. airframes employed for experimental purposes at the contractors' works has the advantage of providing up-to-date airframes on which trials of suggested modifications can be made. It will not normally be necessary to consider from this point of view engine modifications or modifications to airframes of which the contractor is not the parent.

7. In some instances it may be found that the authority to the firm for incorporating a modification is included in the general action taken by D. of E. to cover similar airframes or engines throughout the Service. In other instances it will be necessary to authorize the incorporation of a modification by an amendment to the contract covering the experimental work on which the aeroplane is engaged. In such instances application is to be made to R.D.A.

8. Normally, D. of E. provides for all airframes and engines of the type on D.T.D. charge when making provision for the parts required for airframes and engines of the same type in Service, and therefore in no circumstances are such parts to be made specially unless this is called for in the contract. In the event of the relevant stores depot being unable to supply such parts, the R.T.O. is to report the circumstances to R.D.A. together with, in the case of airframes, the approximate cost of obtaining them from the contractor.

9. If the aeroplane has been sent to the contractor's works for a short period only for some special apparatus or component to be fitted prior to proceeding elsewhere for trial, it may not be necessary to incorporate all modifications. R.D.A. will direct which are to be done when the R.T.O.'s request for authority for incorporation is received.

10. Action taken by the R.T.O. on the above lines should be arranged so as not to be detrimental to the work on which the aeroplane in question is engaged. If, without serious inconvenience, it is not possible to incorporate modifications concurrently with their general application in Service, every opportunity should be taken of incorporating them in blocks when the airframe is unserviceable for reasons connected with the experimental work for which it is in use or when it is undergoing periodic inspection.

11. When any entry in the chronological log is necessitated, the airframe and/or engine log book is to be passed to the A.I.D. Inspector-in-charge, who is responsible for all such entries. The log book is then to be returned to the R.T.O.

12. It is the responsibility of the R.T.O. to inform the A.I.D. Inspector-in-charge, if a D.T.D. aeroplane is to be held out of flight pending the incorporation of a particular modification, in order to enable the A.I.D. Inspector to withhold the issue of A.M. Form 1090.

13. In addition to the issue of orders or leaflets to Volume II, Part I, covering modifications to a particular type of airframe or engine, there are some orders which relate to a particular type but which are not based on a modification, and there are also some general orders relating to items, such as airscrews. The foregoing instructions apply to orders in any of these categories.

14. Inspectors-in-charge should bear in mind that entries relative to modifications made in their capacity as R.T.O. should be made in the "Modifications Log" (pink pages), whilst those made in their normal capacity should be entered on the "Contractors' Modification Log" (Form 1125) only.

RELATIONS BETWEEN A.I.D. AND D. OF E. BRANCHES AND THE ROYAL AIR FORCE

1. The D. of E. is responsible for ensuring that the Royal Air Force is provided with all necessary equipment and stores. D. of E. therefore prepares requisitions on D. of C. which form the latter's authority to proceed with purchases. D. of E. controls R.A.F. stores depots, which are the customary destination of supplies other than complete aircraft.

2. D. of E. forms the normal channel of communication between the A.I.D. and the Royal Air Force, since the A.I.D. are concerned with R.A.F. matériel only and not with R.A.F. personnel.

3. D. of E. passes to A.I.D. a copy of each requisition at the same time as the original goes to D. of C. It is vital that each A.I.D. branch shall minutely scrutinize every requisition, and at once bring to the notice of the originating D. of E. branch any point in which the requisition fails to provide adequate information for inspectional purposes. The requisition forms the basis of D. of C.'s invitations to tender, which in turn become the foundations of contracts, and it is obvious that every precaution to ensure correctness ought to be taken at the outset in order to avert confusion, delay, and expense through the introduction of emergency alterations at a later stage.

INSPECTION AND MAINTENANCE OF SERVICE AIRCRAFT HANDED OVER TO A CONTRACTOR FOR MINOR MODI- FICATIONS, REPAIRS OR ON SHORT-PERIOD LOANS

1. Where a service aircraft is allocated to a contractor for minor modifications, repairs or short-period loans, and it is delivered at the contractor's works by air from a R.A.F. unit, the A.I.D. Inspector-in-charge is to demand from the delivery pilot a certificate from the consignor unit giving the date and details of the last inspection. If the pilot is unable to produce this information the Inspector-in-charge is to make immediate application for it to the C.O. When an aircraft is handed over by a unit to a contractor otherwise than by air the Inspector-in-charge is to apply direct to the C.O. for the certificate of last inspection.

2. The Inspector-in-charge is to apply to headquarters (I.A.1) for supply of the previous Inspection Report(s) (A.M. Form 827). He is also to raise a new A.M. Form 827 for the aircraft involved, to ensure that all subsequent inspection operations are recorded, and to complete page 1 of the form. On completion of the stipulated work, inspection is to be made to verify that the modifications and/or repairs are in accordance with the requirements of the contract and to ensure that the requirements of Inspection Instruction No. A.1, in particular para. 8 thereof, have been satisfactorily fulfilled. If, however, during the course of inspection, defects not previously the subject of contract action are revealed and are of a sufficiently serious nature to affect the immediate airworthiness of the aircraft, the Inspector-in-charge will suspend rectification action for 48 hours and communicate immediately by telephone with D.D.R.M. Should D.D.R.M. deem it advisable for a representative of the unit concerned to visit the contractor's works for the purpose of inspecting the defects under consideration, he will arrange accordingly. If the Inspector-in-charge has received neither a visit nor a communication from the unit at the expiration of 48 hours, he is to proceed with the necessary action for the rectification of the defects. In all instances a fully detailed report, in duplicate, is to be rendered to A.I.D. headquarters (C.I.A.). This report should confirm the information communicated to D.D.R.M. by telephone and contain a resumé of any discussion with the unit's representatives. This report must also state whether :—

- (i) the Inspector-in-charge has instructed the contractor to put in hand the repairs under the authority given to him for minor repairs (reference 878750/28/Ctts. 4A/HCV, dated 19th November, 1928) ; or
- (ii) contract action is required to cover the rectification of the defects.

On receipt of the report at headquarters action will be taken with Contracts branch through D. of E. to authorize the repairs or replacements that are required to render the aircraft airworthy.

3. The Inspector-in-charge, A.I.D., will not issue a certificate of safety for flight (A.M. Form 1090) until he has satisfied himself that :—

(i) inspection has been satisfactorily completed in accordance with para. 2 ;

(ii) log book entries have been correctly compiled and certified ; and

(iii) all the relevant inspectional operations have been duly certified in the newly raised A.M. Form 827, in particular, certification relating to final inspection and safety for flight.

4. Where defects are found which are not sufficiently detrimental to warrant the withholding of a certificate of safety for flight, full particulars of such defects are to be communicated by letter to the officer commanding the unit concerned, and a copy of the letter is to be attached to the newly raised A.M. Form 827. Finally :—

(i) the newly raised A.M. Form 827 is to be permanently secured, uppermost, to the original A.M. Form 827 and the joint forms are then to be forwarded to headquarters (I.A.1) for custody ;

(ii) in addition to log book entries, as called for in current instructions, details of the work done and of the modifications embodied are also to be entered on the appropriate pages.

5. Whilst at the contractor's works these aircraft are to be maintained and receive the periodic inspections by the contractor at the specified times and in accordance with the Schedules provided in Part 2 of Volume II of the air publication applicable to the aircraft. The "Between Flights" and "Daily" inspections detailed in the above-mentioned Schedules need not, however, be carried out.

6. The Inspector will be able to assess the hours flown by any aircraft since its last periodic inspection by the Service from the following information :—

(i) The record of the last 120 hours' periodic inspection, made by the Service in the chronological log in the air-frame log book.

(ii) The certificate handed to the Inspector by the service pilot delivering the aircraft, which indicates whether all periodic inspections were carried out up to the time of departure of the aircraft from the unit.

7. Whenever the assessed number of hours flown shows that a periodic inspection is due or will shortly be due, the Inspector is to arrange with the contractor for the maintenance and inspection(s) to be carried out as referred to at para. 5 above. To effect this the Directorate of Contracts has issued instructions to contractors authorizing the required maintenance and inspection, and the execution of any work found necessary by A.I.D. for the rectification of any serious defects discovered during these periodic inspections. The Inspector is to authorize only the rectification of these defects which would preclude the subsequent issue by him of A.M. Form 1090, or defects which, in his opinion, would allow of more economical rectification at the time. The instructions contained in paras. 1-4 above are to be observed.

8. Each 10, 20, 40 and 120-hour periodic inspection carried out at the contractor's works is to be recorded in the chronological log of the airframe log book. All repairs executed during these inspections are to be recorded in the Repair Log of the airframe log book. All entries in the airframe log book are to be certified by the Inspector-in-charge.

9. Paras. 5-8 above refer to service (D. of E.) aircraft. R.T.O.'s are responsible for the taking of similar action where D.T.D. aircraft are concerned.

SERVICE LOG BOOKS

1. The compilation of all log books is to be carried out by the contractor. The function of the A.I.D. is to check and certify the accuracy of the entries.

2. Inspectors-in-charge are responsible that the requisite data are correctly recorded in log books on all contracts for :—

Airframes	Form 338.
Pilot's automatic controls	Form 1124.
Aero-engines	Form 1127.
Magnetos, V.P. airscrews and auxiliary power units.	Form 1139.
Parachutes	Form 1507.
Kite balloons	Kite Balloon Log Book.
Kite balloon winches	Kite Balloon Winch Log Book.
Mechanical transport vehicles ..	Form 813.
Seaplane Conversion Sets .. .	Form 1139.
Dual Control Conversion Sets ..	Form 1139.

The above are collectively referred to below as "Machines". Inspectors-in-charge will indent on A.M.P.D. for supplies of such log books.

3. In all instances one log book, and one only, will be originated and used for each airframe or engine. Inspectors-in-charge must not, in any circumstances, originate duplicate log books. Should a log book be missing, application must be made to D. of E. for its recovery or replacement. Should the log book be filled up, the Inspector-in-charge may, however, raise a continuation log book, which must be attached to the original. When an airframe or engine is finally written off charge or condemned as unfit for further use or converted to an instructional airframe, the log book must be returned direct to the Secretary, Air Ministry.

4. Normally each log book contains full instructions as to its use and Inspectors-in-charge are responsible for ensuring that these instructions are strictly adhered to. The main principle to be observed is that the log book is raised, when any machine is constructed or manufactured at a contractor's works, recording such manufacture and the inspection thereof, and thereafter contains the history of any particular machine to which it refers.

5. When machines are returned to contractors' works for repair or recondition, log books are to accompany them. Particulars of such repair or reconditioning and the inspection thereof will be entered in the existing log book.

RECORDING OF ALTERATIONS AND MODIFICATIONS IN SERVICE AIRCRAFT LOG BOOKS

1. *General.*—The embodiment of alterations and modifications, whether by the service or a contractor, is to be recorded in the appropriate service log books. The log books to which the requirements of this leaflet apply are as follow :—

Airframes	A.M. Form 338.
Aero Engines	„ 1127.
Pilots Automatic Controls..	„ 1124.
Magnetos	} „ 1139.
V.P. Airscrews	
Auxiliary Power Units ..	

Any alterations or additions to this list will be notified in A.I.D. Monthly Orders, and on receipt of such notification, action is to be taken by Inspectors-in-charge to ensure that the procedure detailed herein is carried out.

2. *Definition of an Alteration.*—A change in design, made when an airframe has entered the development stage and before a D.I.S. has been prepared and sealed, is known as an “Alteration”. Normally an alteration is agreed direct between the Director of Technical Development and the contractor. Alterations are to be recorded in accordance with the requirements of paras. 6, 10, 11, 12, 14.

3. *Definition of a Modification.*—A major change in design, made after the preparation and sealing of a D.I.S., is known as a “Modification” and is introduced under the procedure relevant to airframes, aero-engines or accessories. Modifications are then recorded in the modification index of the D.I.S., and the issue number of the D.I.S. is raised from time to time as the result of the introduction of modifications.

4. *Verification and recording of alterations and Modifications during manufacture of Components.*—(i) At the time of final inspection of an airframe, aero-engine or accessory it will be impossible for the inspector making that final inspection to satisfy himself by visual examination that the whole of the alterations and/or modifications called for have been embodied. It is essential, therefore, that suitable procedure is instituted by the Inspector-in-charge which will ensure that during “stage” inspections the embodiment of the alterations and/or modifications in the various components is verified and recorded.

(ii) When the various components are assembled into an airframe, aero-engine or accessory, the inspector carrying out the final inspection of that airframe, aero-engine or accessory is to have this documentary evidence available. By reference thereto and to the contract he will be able to satisfy himself that the alterations and/or modifications, which the contractor has undertaken to incorporate, have in fact been incorporated.

5. *Modification Log for service use.*—The modification log portion printed in the log book is for use by the service only for the recording of alterations and modifications, and in no circumstances are any entries to be made therein by the contractor or A.I.D.

6. *Modification Log for contractors use—A.M. Form 1125.*—
(i) A.M. Forms 1125 are to be used by the contractor for the recording of all alterations and modifications that are embodied during new construction, complete reconditioning or overhaul, partial overhaul, repairs, modification, etc. These Forms will be issued to Inspectors-in-Charge on demand from the Air Ministry Publications Depot, and are to be inserted and permanently fixed at the end of the log book, except in the latest log books where stub leaves are provided between the repair log and service modification log portions, to which stubs the Forms 1125 are to be attached. As the new type log books measure 13 in. long \times 8 in. wide, the length is sufficient to accommodate two Forms 1125, one below the other. They are to be inserted in this manner and numbered consecutively.

(ii) The certificate at the head of Form 1125 is to be completed by adding one of the following descriptions, whichever is applicable :—

- (a) At construction.
- (b) At complete reconditioning.
- (c) At complete overhaul.
- (d) 1. At partial overhaul.
2. During repair.
3. During modification.

The certificate is to be followed by the list of serial numbers of the alterations and modifications referred to in paras. 10, 11, 12, 13 or 14, whichever is required, and the Inspector-in-Charge is to append his signature immediately under the last serial number. This list can be drawn up by listing each serial number individually, but where a sequence of numbers occurs the first and last only need be given. The serial number of the alteration or modification is to include the type and such prefixes or suffixes as are necessary to identify the alteration or modification.

7. *Recording of cancelled or amended Modifications.*—Instances may occur where a modification may be cancelled or amended by a later one, and therefore although the earlier modification cannot truthfully be recorded on Form 1125 as being embodied in the airframe, aero-engine or accessory, in actual fact it will have been satisfied by the embodiment of the later modification. In this connection, the certificate on Form 1125 now reads :—

“Certified that the undermentioned alterations or modifications have been embodied or satisfied.”

Accordingly in all such instances described above, the earlier modification which has been cancelled or amended is to be recorded on Form 1125 in addition to the later modification.

8. *Recording of partly-embodied Modifications.*—Where an approved modification is only partly embodied and has not been satisfied in its entirety by a subsequent modification, the serial number of the modification is to be listed on the Form 1125 followed by the word “Part” together with an adequate description of the work carried out to enable it and the extent of its incorporation to be identified readily, and its relationship to possible subsequent developments to be traced.

9. *Recording of unapproved Modifications.*—Where contract authority for the incorporation of an unapproved modification has been received by means of a specification, contract schedule or contract amendment, and final Air Ministry approval of the modification is still outstanding at the time of despatch of the airframe, aero-engine or accessory from the works, the serial number of the modification so embodied is to be listed on Form 1125 prefixed by the word “preliminary” and followed by a brief description sufficient to enable the modification to be identified when subsequently approved.

10. *Experimental and Development Airframes, Aero Engines, Accessories, etc.*—Modification procedure does not operate until after the D.I.S. has been prepared and sealed. Accordingly Forms 1125 are to be inserted in the log books for experimental and/or development airframes, aero-engines or accessories and normally will be left blank, but an endorsement is to be made in red ink on the Inspection and Test Certificates in the log books to the effect that such airframes, aero engines or accessories are of experimental or development types. With development airframes, however, instances may arise where it is essential that alterations shall be incorporated and recorded. The authority for the embodiment of such alterations by the contractor will be contract instructions, and where there is great urgency, Form 1262, issued by the

Resident Technical Officer. Where alterations are embodied in accordance with the foregoing, they are to be recorded in the log book on Form 1125, quoting the serial numbers of the alterations preceded by the word "alteration". The certificate in the Form 1125 is to be in the form given in para. 6.

11. *New construction—Production Airframes, Aero Engines, Accessories, etc.*—Although contracts placed for the construction of airframes, aero-engines or accessories normally require these to be built in accordance with a specified issue number of the D.I.S., the contractors modification logs, Forms 1125, for such airframes, aero engines or accessories are to contain a record of all the modifications embodied or satisfied during construction commencing with the first modification issued after the initial sealing of the D.I.S. and in addition, for airframes, those alterations which are included in the modification index of the D.I.S. The certificate in the Form 1125 is to be in the form given in para. 6.

12. *Complete Reconditioning (Airframes).*—(i) *Airframes for which a D.I.S. has been sealed.*—Contracts for the complete reconditioning of airframes for which a D.I.S. has been sealed, usually require that such airframes shall be reconditioned in strict accordance with the drawings and schedules of a specified issue number of the D.I.S., and in addition certain alterations and modifications which are listed by their serial numbers are required to be embodied, while other modifications are specially excluded. The certificate in Form 1125 is to be in the form given in para. 6, and is to be followed by a list of the serial numbers of the alterations and all the modifications since the original sealing of the D.I.S. embodied or satisfied in the airframe.

(ii) *Airframes for which a D.I.S. has not been sealed.*—Contracts for the complete reconditioning of airframes for which a D.I.S. has not been sealed will specify the alterations which are to be embodied. The certificate in Form 1125 is to be in the form given in para. 6, and is to be followed by a list of the serial numbers of the alterations embodied or satisfied in the airframe in accordance with the requirements of the contract.

13. *Complete overhaul (Aero engines and accessories).*—Contracts for the complete overhaul of engines or accessories require that replacement parts are to be of the standard of a specified issue of the D.I.S. and in addition the modifications to be embodied are listed by their serial numbers. The certificate in Form 1125 is to be in the form given in para. 6, and is to be followed by a list of the serial numbers of the

modifications embodied or satisfied in accordance with the requirements of the contract, together with the serial numbers of the modifications which have been embodied or satisfied as a result of the replacement of parts.

14. *Partial overhauls, repairs, modification, etc. (Airframes, aero-engines and accessories).*—The modifications which will be embodied during a partial overhaul, repair, modification, etc., will be those specified in the contract, together with any other modifications that are embodied automatically as a result of the replacement of parts by others of a later standard. The certificate in Form 1125 is to be in the form given in para. 6, and is to be followed by a list of the serial numbers of the modifications embodied or satisfied during the partial overhaul, repair or modification, etc. Similarly where alterations as referred to in paras. 2 and 10 have been embodied or satisfied in an airframe during partial overhaul, etc., these are also to be recorded on Form 1125.

RELATIONS BETWEEN A.I.D. AND D.W.B.

The D.W.B. is concerned with the provision and maintenance of buildings, aerodromes, and other works for the Royal Air Force. In general, inspection of D.W.B. supplies for home stations is carried out on delivery by D.W.B.'s staff : but supplies for direct shipment overseas are usually inspected by the A.I.D., who also inspect structural work where process inspection is required during manufacture. Further, D.W.B. may, by agreement, request the A.I.D. to inspect other supplies on their behalf. The special procedure to be followed in connection with A.I.D. inspection of D.W.B. supplies is set out in Leaflet H.1.

**A.I.D. RESPONSIBILITY FOR INITIATING ACTION,
WHERE MINOR WORK IS TO BE EXECUTED BY
AIRCRAFT CONTRACTORS**

1. Provision has been made by D. of C. whereby instructions to proceed with certain minor work may be given by the A.I.D. or D.T.D. representative at the aircraft contractor's works, where it is essential that instructions to execute work (not within the scope of existing contract instructions) shall be given immediately the necessity for such work becomes apparent.

2. This delegation of D. of C.'s authority to the A.I.D. or D.T.D. representative has been notified to certain aircraft contractors by a D. of C. letter, a copy of which has been sent to the Inspector-in-charge, A.I.D. at the works concerned.

3. The A.I.D. Inspector, when satisfied that it is essential that minor work must be executed, is to give the instructions to the contractor to proceed on A.M. Form 1262.

4. Examples of work, which may be covered by the use of this Form are :—

- (i) minor repairs to service aircraft temporarily located at contractor's works for modification ;
- (ii) minor work found necessary as a result of the periodic inspection and maintenance of service aircraft whilst at contractor's works ;
- (iii) correction of the balance of wooden airscrews.

OFFICIAL RELATIONS BETWEEN A.I.D. AND CONTRACTORS

1. The object with which the A.I.D. sends staff, whether resident or visiting, to the premises of an Air Ministry contractor or sub-contractor is to verify that the provisions of the contract or order are being fulfilled. Such staff may, if appointed to represent other Air Ministry directorates, have additional duties to perform; but these are distinct from their functions as inspectors, which are wholly comprised in the first sentence of this paragraph.

2. Consequently, whilst exercising all necessary vigilance in the execution of their inspectional functions, A.I.D. staff are not intended to act in any sense either as police or as spies, and must carefully avoid such conduct as might imply or suggest that they are so acting. On the other hand, A.I.D. inspection is for the purpose of safeguarding the purchaser—*i.e.*, the Air Ministry—and not for the benefit of the firm. Accordingly, attempts on the part of a manufacturer to utilise the results of A.I.D. inspection to help in controlling his own staff, by means for example of bonus or penalty schemes based on such results, are to be discountenanced, and where it is known that any measures of this kind are being taken or contemplated the Inspector-in-charge is to inform the firm in unmistakable terms that the action or intention is not permissible. Within their legitimate sphere, however, the interests of the service require that the A.I.D. shall afford to contractors and sub-contractors any assistance that can be reasonably given without detriment to the directorate's work or staff.

RESPONSIBILITY OF MEMBERS OF THE A.I.D. IN THEIR PERSONAL RELATIONS WITH CONTRACTORS

1. Where a contractor provides a mess, refreshment club or other facilities for obtaining meals for his staff at his works, the A.I.D. staff doing duty at that station may at the contractor's invitation take advantage of such facilities, provided :—

(i) the charges for meals and mess or other subscriptions of A.I.D. staff are not less than those of the contractor's staff using the same mess or club ;

(ii) the A.I.D. staff is afforded no privileges or advantages other than those enjoyed by the contractor's staff ;

(iii) each grade of the A.I.D. staff uses only the particular mess or club, if any, which the contractor allocates to the grade.

2. Where a member of the A.I.D. staff leaves any article of private property in any part of the firm's works, including that part (if any) set aside for A.I.D. occupation, he does so entirely at his own risk.

3. It is considered very undesirable that a son, daughter, or other close relative of a member of the A.I.D. staff should be employed by the contractor at whose works that member of the A.I.D. is stationed or visits in the course of his duties.

4. Similarly, it is undesirable that a close relative of a member of the A.I.D. stationed at an Office should be employed by a contractor whose approved inspectional organization is supervised by that member.

5. Any member of the A.I.D. affected by paras. 3 or 4 is to report the circumstances at once to headquarters. Any member of the A.I.D. is to report to headquarters, if, on receiving notification of a change of station or in other circumstances, he finds that he will have to carry out his official duties at the works of a firm at which a close relative of his is already employed.

SAFEGUARDING OF SECRET AND CONFIDENTIAL INFORMATION

1. The attention of every member of the A.I.D. staff is directed to the words of the declaration regarding the Official Secrets Acts, 1911 and 1920, as set out on A.M. Form 108. This declaration is signed by each member of the staff on joining the A.I.D., and strict adherence to it must be maintained both in the letter and spirit of the declaration.

2. This declaration applies equally to safeguarding official secrets and the preservation of secrets regarding workshop processes, methods of manufacture and the like, which it may be necessary for a firm to disclose to an Inspector to enable him to carry out his duties in an efficient way.

3. Inspectors-in-charge can obtain, on application to headquarters, copies of Air Ministry letters S.24168/D. of C. of 28th July 1927, and 10th June 1930, and 961312/29.S.9. of 13th January 1930, communicating to the Society of British Aircraft Constructors Ltd., the Department's requirement in regard to the preservation of the secrecy of Air Ministry material as regards unauthorised persons, whether aliens or British subjects, who may from time to time visit or be attached to the manufacturers' works. These letters are for confidential information only and must be kept under lock and key. Letters with similar purport have been issued to W/T contractors at whose works A.I.D. staff is resident.

4. Subject to compliance with these requirements and to prior notification being given by him to the A.I.D. Inspector, the manufacturer is not required to obtain prior sanction from the Air Ministry for casual day visits to his works by a person within the categories mentioned in para. 3.

5. When, however, it is proposed for any reason that such a person should be attached for any period to the works, the manufacturer is required to obtain the concurrence of the Air Ministry before the negotiations are completed. This does not apply to students received under official scholarship or training schemes arranged by the Dominions, India or the Colonies, through the Air Ministry.

6. The effect of the procedure adopted is to place upon the manufacturer the responsibility for ensuring compliance with the requirements of the Department. At the same time the A.I.D. Inspector, as the Department's local representative, is in a special position to assist in securing that its interests are safeguarded. He will accordingly notify the Department by filling in and forwarding A.M. Form 1167 immediately after every visit of which the manufacturer informs him ; but he

should also endeavour to keep himself acquainted with visits and attachments (proceeding or impending), and report in confidence to the Department whenever he is of opinion that this procedure is being abused. Such action may be taken by means of A.M. Form 1167, by letter, or telephone, and (provided due discretion is observed) will always receive the full support of the Air Ministry. Whenever A.M. Form 1167 is forwarded, Inspectors-in-charge are to insert in addition to the surname of the visitor his Christian names or at least his initials.

7. (i) The responsibility for ensuring that all the required steps are taken by contractors to preserve the secrecy of Air Ministry work covered by the Secret List rests with the R.T.O. Where the Inspector-in-charge, A.I.D., combines his own functions with those of the R.T.O., the responsibility rests with him.

(ii) In all other instances, however, the Inspector-in-charge should assist the R.T.O. by reporting to him when the secrecy arrangements appear to be inadequate or ignored.

(iii) It should be remembered that any "mock-ups" of secret equipment should be given the same degree of secrecy as the equipment itself.

8. (i) All details of experimental aircraft, aero-engines, air armament, including bombs, torpedoes and torpedo gear, new devices for supercharging and ground boosting engines, Service wireless equipment, glider targets, intercommunication between Service aircraft and between service aircraft and the ground, deck-landing equipment, catapult launching, relay controls and Service equipment in general are normally secret, if manufactured to an Air Ministry Order or designed and built as a "private venture" on the initiative of a manufacturer, provided such "private venture" is considered by the Air Ministry to be of interest to the Royal Air Force.

(ii) So long as experimental aircraft remain on the Secret List, they are designated by a title composed of the manufacturer's name and the specification title (with the letters "P.V." if the aircraft is built as the private venture of the contractor). The specification title will consist of a letter denoting the class, a serial, and the last two numbers of the year of origin.

Example :—Two army co-operation designs :—

(a) Built by Messrs. Handley Page to an Air Ministry specification—"Handley Page A.5/26".
and :

(b) Built by Messrs. Vickers as a private venture—"Vickers P.V. A.5/26".

On release from the Secret List the aircraft, if not accepted for Service trials or not required for any reason will be free for naming by the manufacturer.

(iii) At a certain stage in development, the Air Ministry allows certain information to be made public, and the aircraft or engine is transferred to the Part Publications List. This permits the publication of a general description, without performance or structural data, and general photographs of the exterior as a whole, not giving details or shewing Service secret fittings. At a still later stage aircraft and engines are transferred to the Open List, when no restrictions are placed by the Air Ministry on the publication of complete information, provided no secret fittings are disclosed.

(iv) It is to be noted that para. 8 (iii) applies only to aircraft and engines. It does not apply to the other stores and equipment referred to in para 8 (i).

9. Safeguarding of Firm's Secrets.—An Inspector's knowledge consists of information which he has acquired through his experience and observation. In so far as that knowledge comprises a wider group of shop processes and production methods than is likely to be possessed by any single firm with which he comes into official contact, it is his duty to place his knowledge at the disposal of any such firm to whom it may be of assistance in their execution of Air Ministry contracts and orders. At the same time, it must be realised there may be certain methods and processes which have been invented, discovered or specially developed by an individual firm, and that these processes (whether ostensibly secret or not) give that firm a definite advantage over its competitors, and consequently do in effect constitute part of the firm's stock-in-trade or goodwill. The greatest care is to be exercised by A.I.D. staff in avoiding the disclosure of any such process to another firm, especially to a competitor. Where it is considered that such disclosure would be of real value to the Air Ministry as a whole, the question should be referred to headquarters for special instructions.

A.I.D. RESPONSIBILITY IN CONNECTION WITH THE VERIFICATION OF MATERIAL OF BRITISH OR IMPERIAL ORIGIN

1. Contracts in which it is necessary for the A.I.D. to verify that material is of British (or Imperial) origin are of three kinds, viz. :—

(i) Contracts in which preference has been exercised by passing over a lower tender for foreign material in favour of a higher one offering British (or Imperial) material, etc., or similarly by passing over a tender offering Empire materials, etc., in favour of a higher tender offering British.

(ii) Contracts placed on invitations to tender which initially specify the supply of British (or Imperial) materials, components, and/or processes.

(iii) Contracts in which, after enquiry at the tender stage as to the country of origin of materials, etc., British or Empire materials, etc., are stipulated, but have not been the subject of a preference.

2. Contracts of class (i) above will contain the following clause :—

“ This contract has been awarded at a special price in consideration of ” (here will be inserted the special requirements in respect of which preference has been awarded) “ and the contractor must furnish a certificate that this requirement has been complied with, in respect of each delivery made under the contract, this certificate to be made on, or to accompany, the relevant Form 530. The contractor must be prepared, if called upon, to produce evidence to the satisfaction of the Department of the accuracy of the statements in that certificate.”

Whenever this clause appears the Inspector-in-charge to whom the contract is issued will take special steps to assure himself that it is complied with, unless he is notified by headquarters that such verification is unnecessary. D. of C. has undertaken that all such contracts shall be specially brought to the attention of A.I.D. branches, and that where, owing to the smallness of the preference, special verification is not required, the fact will be expressly stated. Where a contract containing this stipulation is allocated for inspection to an A.I.D. bond, it will be the duty of the Inspector-in-charge, unless notified by headquarters that special action is unnecessary, to arrange with the Inspector-in-charge at the appropriate A.I.D. office, to make such investigations as are essential to ensure adequate verification that the stipulation as to the place of origin is fulfilled.

3. Contracts of classes (ii) and (iii), para. 1 above, which contain definite stipulations that the material shall be of British (or Imperial) origin, will be marked on the front with the letters "B.O." in order to call the attention of the Inspector-in-charge to the existence of the stipulation in question. They will also contain the following clause :—

"The contractor guarantees that" (here will be inserted the special requirements as regards origin of material) "and must furnish a certificate to this effect in respect of each delivery made under this contract, such certificate to be made on, or to accompany, the relevant Form 530. The contractor must be prepared if called upon, to produce evidence to the satisfaction of the Department of the accuracy of the statements in that certificate."

In the same way as the Inspector checks the observance of other contract conditions, so also is he to satisfy himself that this condition is fulfilled. If the Inspector-in-charge to whom the contract is allocated for inspection has any suspicion that the condition is not being fulfilled, he is to address a special report to the appropriate D. of C. branch. Where such a contract is allocated for inspection after delivery, the Inspector-in-charge at the bond is, if necessary, to request the Inspector-in-charge of the appropriate A.I.D. office to undertake whatever local investigation is requisite to establish that the contract requirement is met.

MAINTENANCE OF AND ALTERATIONS TO AIR MINISTRY ENGINES AT AIRCRAFT CONTRACTORS' WORKS

Maintenance

1. It is an obligation on the part of aircraft contractors not only to ensure that engines issued to them are correctly maintained in accordance with storage regulations, but in addition to keep them in efficient running order by carrying out certain routine adjustments as laid down in the official handbooks.

2. This obligation applies to all Air Ministry engines, whether used for mock-up or installation purposes, and whether on D.T.D. or D. of E. charge.

3. Inspection Instruction No. E. 136, in addition to giving instruction in regard to maintenance, defines the extent to which aircraft contractors may make adjustments to engines.

4. Inspectors-in-charge are to be in possession of the official handbook—in which engine maintenance schedules are now included—for each type of aircraft at their stations. Indents for these are to be placed on I.G. through I.A.1. This will ensure that amendments are forwarded as and when issued. It is the duty of an Inspector-in-charge to see that all such handbooks on his charge are kept up to date in this respect and that contractors maintain engines accordingly.

5. Where no official publication is in existence, application should be made direct by letter to I.A.1. Action will then be taken for the necessary information relating to maintenance and running adjustments to be supplied both to the Inspector-in-charge and to the contractor.

Alterations

6. When major adjustments and/or alterations are necessary, the services of an engine constructor's mechanic are to be obtained. For these purposes the instructions issued by D. of C. are to be followed. Inspectors-in-charge must ensure that they are in possession of these instructions, copies of which can be obtained on application to D. of C.

Alterations at Aircraft Contractors' Works

7. The Inspector-in-charge at an aircraft station is responsible for taking action to obtain the services of an engine constructor's mechanic by completing Part I of A.M. Form 1313. A running contract (against which A.M. Form 1313 demands can be made) exists with each of the four principal

engine constructors. Where no such contract exists, separate action will have to be initiated by D.T.D. or D. of E. Normally such services are required in the event of :—

- (i) the replacement of any part or major adjustment being found necessary ;
- (ii) an engine regarded as in its development stages being installed ;
- (iii) an engine in an aircraft which has an installation of an experimental character ;
- (iv) a " derated " engine altered to full rating.

8. All work carried out must be inspected and certified by the Inspector-in-charge, who must ensure that only necessary work is performed and that it is completed expeditiously.

9. A book of all work carried out by engine constructors' mechanics is to be maintained by the Inspector-in-charge at each aircraft station and the mechanic should be invited to sign it on completion of the work. This book should also contain the particulars required in Part III of A.M. Form 1313.

10. In the event of mechanics' services being required for more than fourteen days from the time of starting work, a renewal of the original A.M. Form 1313 is necessary. Where the A.I.D. Inspector-in-charge at an aircraft station is the " originating authority " referred to in D. of C. instructions, he is empowered to issue the renewal without prior reference to the Air Ministry, if, in his opinion, an extension is necessary. Having given this renewal, the fact must be reported to I.A.1 giving detailed reasons for the extension. Each subsequent renewal must also be reported giving the total period in days already spent. If the originating authority is other than the Inspector-in-charge at an aircraft station, all applications for renewals are to be forwarded by the Inspector-in-charge concerned direct to the originating authority in time for the renewal to be approved prior to the expiry of the current period.

11. Occasionally engine contractors in their own interests instruct their mechanics to effect small replacements to engines after delivery to aircraft contractors' works, without charge to the Air Ministry. Every proposal of this nature must be reported to I.A.1 for prior approval, and the work must not be sanctioned until this has been obtained. If approval is given, the mechanic's time is not to be certified unless specific instructions from D. of C. are received. Inspection by A.I.D. must always be made and an entry inserted in the engine log book, giving particulars of the work done and quoting the authority. Where there is an alteration of rating, the inspection and test certificate in the front of the log book should be amended to show the cancellation of the " derated " condition of the engine. The embodiment of modifications should be

entered on the Green Form 1125 at the back of the log book beneath the previous inspector's signature. The extent of the repair, alteration, substitution, etc., is to be recorded in the repair log of the log books. A record of the mechanic's time is to be kept in the book referred to in para. 9 for reference if the information is subsequently required.

12. It is the duty of Inspectors-in-charge to satisfy themselves that only mechanics' services which have been completed in connection with Air Ministry contracts or orders are certified for payment by the Ministry. Work done solely for the benefit of the aircraft or engine contractor must not be included. Where work is done on behalf of Dominion Governments, the relevant A.M. Form 1313 must be endorsed accordingly.

13. If, at any time, a defective part and/or defective functioning is apparent on an Air Ministry engine full details are to be forwarded to I.A.1 using pages 1 and 2 of R.A.F. Form 1022 for the purpose. (Supplies of this form can be obtained on demand from A.M.P.D.) Any defective part is to be forwarded with the report or retained pending disposal instructions. A.M. Form 1313 should not be raised in such instances.

14. Particular caution should be exercised as regards work done on engines under loan agreement (a copy of which is automatically issued to the Inspectors-in-charge concerned) the terms of which usually prescribe that the contractor is liable for the cost of any work done on engines on loan.

Alterations at Service Units or Service Experimental Stations

15. The responsibility for carrying out the procedure outlined in the D. of C. circular letter referred to in para. 6 is that of the Inspector-in-charge at the engine station concerned.



INSPECTION OF "USED" SERVICE ENGINES AT AIR-CRAFT CONTRACTOR'S WORKS

1. Under D. of E.'s instructions "used" Service engines are in certain circumstances issued to aircraft contractors in connection with Air Ministry contracts. Such issues are limited to engines required for aeroplanes after repair or reconditioning. These engines ("Ferry" engines) may reach the aircraft contractor either :—

(i) in aircraft flown from a R.A.F. unit to a contractor's works for repair or reconditioning ; or

(ii) from a R.A.F. unit, to which a repaired or reconditioned aircraft has been flown with a "Ferry" engine installed.

2. In view of the fact that the Inspector-in-charge will be called upon to issue a certificate of safety for flight after a "Ferry" engine has been installed in a repaired or reconditioned aircraft, he must make arrangements for examination of the engine as soon as possible after receipt at the contractor's works. In the course of this examination it must be borne in mind that the engines are not new, and that the purpose of the examination is to ascertain whether the engine is "Airworthy."

3. The following notes are for the guidance of the Inspectors-in-charge when carrying out examinations of "Ferry" engines:—

(i) A close scrutiny must first be made of the engine log book in order to obtain the full history of the engine. Provided this is satisfactory, an external examination of the engine should then be made.

(ii) In carrying out the external examination, any minor repairs or replacements considered necessary can be carried out under the normal procedure whereby the services of the engine makers' mechanics are obtained. This examination should also include removal of the oil filters and inspection for traces of white metal or other indications of the internal condition of the engine. Sparking plugs should also be removed, examined, and, where possible, tested ; doubtful plugs should be replaced by new ones.

(iii) After installation of the engine, very careful observations should be made during ground tests.

(iv) If the engine is considered airworthy at this stage, a certificate for flight may be granted, but in view of the fact that the internal condition of the engine has not been verified, the engine log book must be endorsed in all cases as follows :—

"The internal condition of this engine has not been verified by A.I.D."

(v) A spécial entry is also to be made in A.M. Form 827 under the list of components. After the inspectional information regarding the engine has been entered, a note is to be added, viz. :—"Ferry engine, minor repairs and/or replacements have/have not been carried out by engine maker's mechanics."

4. If, on examination, it is considered that a "Ferry" engine is not airworthy (excluding minor repairs or replacements) the fact should be reported to headquarters (I.A.1), giving full details of the defects found.

AIRCRAFT EQUIPMENT DESIGNED BY AIRCRAFT CONSTRUCTORS

1. Whenever an aircraft constructor designs and constructs equipment for installation in an aircraft in place of standard equipment, early information is to be given by the Inspector-in-charge at the aircraft constructor's works to the technical branch at A.I.D. headquarters, which is concerned with the technical direction of such equipment. Technical queries, which may arise during the construction of such equipment, are to be dealt with in a similar manner. Technical queries, relating to the installation of such equipment, are however to be addressed to C.I.A.

PASSENGER FLIGHTS IN AIR MINISTRY AIRCRAFT

1. The following instructions are not to be confused with those relating to flying by A.I.D. staff, *see* Leaflet S.10.

2. The Inspector-in-charge, A.I.D., is nominated as the officer empowered to authorise the carrying of passengers in Air Ministry aircraft at a contractor's aerodrome allocated to him.

3. Serving personnel of the Royal Air Force visiting the contractor may be authorised to fly as passengers in such aircraft. It is, however, the concern of R.A.F. personnel to ensure that they are complying with Service regulations when taking such a flight.

4. Air Ministry civilian officials visiting the contractor on duty, in connection with which a flight is desirable, may be permitted to fly as passengers. The Inspector-in-charge is not required to ascertain whether such officials' duties involve flying or not.

5. In connection with paras. 3 and 4 above, the passenger must wear a parachute if the pilot is so equipped. The parachute held on charge by the R.T.O. may be borrowed for this purpose. It is to be emphasised that an individual who is also a qualified pilot is restricted under this authorisation to flying only as a passenger. Where it is desired that a visiting officer shall pilot a machine the Inspector-in-charge will receive notification in writing.

6. (i) While an aircraft is on the " secret " or " part publication " list or has in it any gear or apparatus of a secret nature, the only passengers who may be carried in it, without special sanction are members of the constructor's staff, serving personnel of the R.A.F. and officials of the Air Ministry. No other passenger may be carried in such an aircraft except under authority in writing from the Air Ministry (D. of C. or S.8.).

(ii) Persons accredited by the contractor, who requests permission for them to fly as passengers in Air Ministry aircraft on the open list, may be allowed to fly provided they sign the form of indemnity prior to undertaking the flight. The form of indemnity is that given in para. 9. In giving permission under this clause it should be pointed out to the contractor that it is without prejudice to any claim that the Air Ministry may consider it necessary to make in connection with the carrying of passengers other than his own staff, personnel of the Royal Air Force and officials of the Air Ministry.

(iii) A return of passengers carried, other than R.A.F. personnel, members of contractor's staff, Air Ministry officials, and persons for whom specific approval is given in writing by the Air Ministry, is to be sent to D. of C. monthly. Where no such passengers have been carried a nil return is to be furnished. This report is to be incorporated in the monthly aircraft report (A.M. Form 718).

7. No flight may be undertaken solely for the purpose of carrying a passenger. Passenger flights are only to be authorised when the aircraft is being flown as part of the flying which the contractor has been authorised to carry out under the terms of his contract.

8. Invariably the normal inspection routine is to be carried out and the issue of the certificate of safety for flight (A.M. Form 1090) is to be made.

9. Specimen forms of indemnity are given below. In no circumstances is A.I.D. staff to sign any form indemnifying the contractor before a flight in Air Ministry aircraft at contractor's works.

Specimen Form of Indemnity No. 1

In consideration of my being carried at my request as a passenger in aircraft the property of the Air Council and/or in charge of any officer or airman, Royal Air Force, I undertake and agree that neither I nor my executors or administrators will make any claim against the Air Council or against any officer or airman, Royal Air Force, or against any person in the service of the Crown in respect of any loss or injury to property or person (including injury resulting in death) which I may suffer while or in consequence of my being so carried and I understand that no compensation will be paid by the Air Council or by any officer or airman, Royal Air Force, in respect of any such loss or injury and I agree so as to bind myself, my heirs, executors and administrators to indemnify the Air Council and any officer or airman, Royal Air Force, and any person in the service of the Crown against any claim which may be made by any third party against them or any of them arising out of any act or default on my part during, or in connection with, the said flight.

Signature of Applicant.....

Address and designation of Applicant.....

.....

Signature of Witness.....

Address and designation of Witness.....

.....

Dated..... 19.....

Specimen Form of Indemnity No. 2
(Scottish Cases)

In consideration of my being carried at my own request as a passenger in aircraft the property of the Air Council and/or in charge of any officer or airman, Royal Air Force, I hereby agree to accept all the risks of and incident to such flights including any fault or negligence on the part of the Air Council or any officer or airman, Royal Air Force, or others, and I bind and oblige myself and my executors, successors, and representatives whomsoever not to make any claim against the Air Council or against any officer or airman, Royal Air Force, or against any person in the service of the Crown in respect of any loss or injury to property or person (including injury resulting in death) which I may sustain while or in consequence of my being so carried, and I understand and agree that no compensation will be payable to me or my foresaids by the Air Council or any officer or airman, Royal Air Force, or any other person in the service of the Crown in respect of any such loss or injury ; and further, I hereby bind and oblige myself and my heirs, executors, successors and representatives whomsoever all jointly and severally to relieve, indemnify and safe and harmless keep the Air Council and the officers or airmen, Royal Air Force, or any of them and any other person in the service of the Crown from and against all actions, proceedings, claims and demands which may be made against them or any of them by any third party arising out of any act or default on my part during or in connection with said flights, and against all loss, damage or expense which the Air Council or the officers or airmen, Royal Air Force, or any of them or any person in the service of the Crown may sustain, incur or be liable to for or in consequence of any such actions, proceedings, claims or demands.

Signature of applicant.....

Address and designation of applicant.....

.....

Signature of first witness.....

Address and designation of witness.....

.....

Signature of second witness.....

Address and designation of witness.....

.....

Dated..... 19.....

Place

ACCIDENTS TO AIRCRAFT AT CONTRACTOR'S WORKS

1. It is the duty of the Inspector-in-charge, A.I.D., at an aircraft contractor's works to notify Air Ministry departments as shown below whenever an accident resulting in damage occurs to any aircraft on order for the Air Ministry, or to an unregistered civil aircraft, at, or in the vicinity of, the contractor's aerodrome.

2. One telegram only will be prepared, but multiple addresses will be filled in as indicated below :—

<i>Class of Aircraft.</i>	<i>Departments to be notified.</i>
(i) Experimental.	D.T.D., D. of C., and D.A.I.
(ii) First aircraft off a development contract.	D.T.D., D. of E., D. of C., and D.A.I.
(iii) First aircraft off a production contract.	D.T.D., D. of E., D. of C., and D.A.I.
(iv) Other development and production aircraft.	D. of E., D. of C., and D.A.I.
(v) Unregistered civil aircraft.	D.D.C.A. and D.A.I.

3. It is to be clearly understood that the telegraphic notification required, as detailed above, is not to interfere with the existing regulations regarding the reporting of accidents to the Inspector of Accidents.

INSPECTION EQUIPMENT

General Remarks

1. All inspection tools, equipment, furniture, &c., required for A.I.D. use are issued by or through the A.I.D. Test House. Office furniture provided by contractors under A.M. Form 705, para. 14*b*, is not intended to include filing cabinets, card-index cabinets, letter baskets, waste-paper baskets and the like. Such equipment should be demanded from the A.I.D. Test House. Heads of branches, and Inspectors-in-charge, out-stations, may authorise the demand of equipment which they may consider necessary for use at their stations, and the Inspector-in-charge, A.I.D. Test House, is empowered to issue on their authority, subject to the limitations set out in this section.

PROVISION OF INSPECTION EQUIPMENT

1. The provision of equipment to meet demands is to be dealt with under the following headings :—

- (i) Equipment available from R.A.F. stock or running contracts.
- (ii) Equipment available from A.I.D. stores (N.I.V.).
- (iii) Special equipment which has to be purchased.
- (iv) Equipment which is to be obtained from other government departments.

2. *Equipment available from R.A.F. stocks.*—Equipment available from R.A.F. stocks is to be obtained by the Inspector-in-charge, A.I.D. Test House, on indent direct in accordance with A.P. 830, Vol. I, Chapter VII, subject to the requirements laid down in leaflet R.3.

3. *Equipment available from A.I.D. stores (N.I.V.).*—Equipment available from A.I.D. stores will be issued as necessary. The maintenance of A.I.D. stores stocks is to be carried out as follows :—

(i) A list of special equipment to be held in A.I.D. stores with the authorised “stock quantity” shown against each item is to be maintained by the Inspector-in-charge, A.I.D. Test House, any addition to or deletion from this list requiring the authority of D.A.I.

(ii) Stock quantities are to be maintained by the Inspector-in-charge, A.I.D. Test House, by purchase as at para. 4. Where, however, purchase has to be resorted to, it may be economical to defer immediate action in order that reasonable quantities may ultimately be obtained.

4. *Special equipment which has to be purchased.*—(i) Where special equipment or repairs to apparatus are required and the estimated cost is £25 or over, the head of the branch concerned will submit a requisition for purchase to the head of the division. If the latter concurs he will forward the requisition to D.A.I. for approval. The requisition if approved is to be passed to I.G. who will obtain financial concurrence and submit to D. of C. for contract action.

(ii) Where the estimated cost is less than £25 the head of the branch will sign a demand for local purchase and pass it through his A.C.I. to I.G. The latter having obtained financial concurrence and the agreement of D. of C. will pass the demand to the Inspector-in-charge, A.I.D. Test House, for local purchase action in accordance with A.P. 830, Vol. I.

The Inspector-in-charge, A.I.D. Test House, is authorised to accept the lowest tender, referring to I.G. in all instances of doubt. D. of C. will take contract action where headquarters action is considered to be preferable to local purchase.

(iii) Where extreme urgency exists, the Inspector-in-charge, A.I.D. Test House, is authorised to place, without reference to headquarters, local purchase orders up to £2 in value, limited to a total of £10 a month. Tender action is not necessary.

5. *Equipment which is to be obtained from other government departments.*—All demands will be referred to I.G. either by the Inspector-in-charge, A.I.D. Test House, or by heads of branches. I.G. is to arrange for supply either by "requisition", if it is known that the equipment is available in stock, or on "extract", where provision has to be arranged.

6. Receipts of special equipment, whether obtained by contract action, local purchase or from other government departments, are to be reported to the head of the branch concerned, by the Inspector-in-charge, A.I.D. Test House, immediately they become available for issue.

7. *Rendering of periodical returns and accounting.*—The Inspector-in-charge, A.I.D. Test House, will furnish a return to the head of each division monthly, showing the total value of demands met during the month from each of their respective branches and stations. He will also submit a monthly return to I.G. showing the total value of supplies obtained from all sources during the month. The payment of all bills and all questions of accounting, store audit, &c., will be dealt with by I.G.

DEMANDS FOR A.I.D. EQUIPMENT

1. (i) Except for M.T. requirements, demands for equipment required either for "station" or "personal" use are to be submitted direct to the Inspector-in-charge, A.I.D. Test House, on A.M. Form 835 in duplicate. A full description of the articles required is to be given and, where possible, the vocabulary reference number quoted. Where the equipment is known to be of a special nature not available from stock and not previously supplied, drawings, sketches and/or samples are to be furnished, if possible.

(ii) Demands for equipment for "personal" use are to be submitted separately. Consumable stores are to be demanded separately from A and B stores (*see* Leaflet R.7).

(iii) Demands for inner tubes and outer covers, lubricating oil, &c., required in connection with A.I.D. mechanical transport are not to be forwarded to Inspector-in-charge, A.I.D. Test House. They are to be forwarded to I.S.I. in triplicate.

(iv) Demands for petrol will be dealt with as detailed in Leaflet S.17.

(v) The Inspector-in-charge, A.I.D. Test House, is authorised to meet duly approved demands provided:—

(a) The following monthly financial limit of cost of equipment issued is not exceeded:—

For each branch or resident station	..	£20
„ „ office or bond	£50
„ the A.I.D. Test House	£100

(b) Demands for furniture, typewriters, protective and other clothing have received prior headquarters' approval (I.G.). Demands for tyres, lubricating oil, &c., in connection with A.I.D. mechanical transport have received prior headquarters' approval (I.S.I.).

ISSUES OF A.I.D. EQUIPMENT

When equipment is issued from the A.I.D. Test House, A.M. Form 674 in duplicates is to be forwarded to the individual concerned. The latter will, after checking off the items received, sign and return the original copy to the A.I.D. Test House. The duplicate copy of A.M. Form 674 is to be retained by the individual.

A.I.D. EQUIPMENT ON PERSONAL, STATION OR LOAN CHARGE, WHEN REDUNDANT, LOST OR DAMAGED

At Home

1. (i) When serviceable equipment is no longer required or when it is considered to require re-checking for accuracy, the Inspector-in-charge will report the circumstances to the Inspector-in-charge, A.I.D. Test House, who will issue instructions as to the disposal of the equipment.

(ii) When equipment is lost, the Inspector-in-charge will furnish a detailed report of the loss to the Inspector-in-charge, A.I.D. Test House. The latter will forward the correspondence, together with a statement of the value of the lost equipment, to I.G., in order that responsibility for the cost of replacing the loss may be determined.

(iii) When equipment has been damaged or becomes unserviceable, the Inspector-in-charge is to report the circumstances to the Inspector-in-charge, A.I.D. Test House. The former will either certify that the unserviceability was due to fair wear and tear or that the damage was accidental, not due to carelessness or wilful negligence. In the event of his inability to render such a certificate he is to submit the name or names of the individuals responsible for the damage or unserviceability. Where he considers that the equipment is not worth the cost of repair or cost of carriage to the Test House, he will report accordingly. If a clear certificate could not be rendered or local disposal has been recommended, the Inspector-in-charge, Test House, will, on receipt of the report, refer to I. G. for instructions. Otherwise he will issue disposal instructions direct to the Inspector, who made the report.

(iv) Where replacement of equipment is required under (ii) or (iii) above, A.M. Form 835, in duplicate, is to accompany the report, when submitted to the Inspector-in-charge, A.I.D. Test House.

Overseas

2. (i) When serviceable equipment is no longer required or when it is considered to require re-checking for accuracy, the Inspector-in-charge is to report the circumstances to the Inspector-in-charge, A.I.D. Test House, who will arrange either for the equipment to be returned or for its disposal locally.

(ii) When equipment is lost or damaged through carelessness or wilful negligence, the Inspector-in-charge is to report the circumstances to the A.O.C., who will deal with the matter in accordance with service regulations. The A.O.C. will give his authority for a "write off" or other disposal instructions on

Form 34, an additional copy of which is to be forwarded to the Inspector-in-charge, A.I.D. Test House, together with A.M. Form 835, in duplicate, if a replacement is required.

(iii) When equipment has been damaged or becomes unserviceable due to fair wear and tear or accident, in circumstances not involving wilful damage or carelessness, the Inspector-in-charge is to report the circumstances to the A.O.C., in order that the matter may be surveyed by a Board of Officers. The Inspector-in-charge is invariably nominated a member of the Board. Vouchers endorsed with the finding of the Board in connection with the "write off" or disposal are to be forwarded to the Inspector-in-charge, A.I.D. Test House, together with A.M. Form 835, in duplicate, if replacement is required.

All stations

3. In no instance is an inventory to be amended until advice has been received from the Inspector-in-charge, A.I.D. Test House.

At A.I.D. Test House

4. *Survey of unserviceable equipment held in A.I.D. store.*— Equipment held in stock or returned to store, which is not considered to be serviceable, is to be conditioned by a Board of Survey in accordance with A.P. 830, Vol. I. Boards of Survey will be convened on the authority of D.A.I., and the Inspector-in-charge, A.I.D. Test House is to apply to I.G. whenever he considers the holding of a Board is necessary. Form 681 duly prepared is to accompany the application.

A.I.D. EQUIPMENT ON LOAN

1. Equipment, when issued under the following conditions, should normally be held on loan :—

(i) Equipment (other than inspection stamps) and protective clothing when issued on personal inventory.

(ii) Equipment including gauges, when issued for the specific purpose of carrying out inspection on a particular contract or order.

2. When equipment is issued on loan the period of the loan is determined prior to its issue. The period of loan is not to exceed three months in the first instance, unless a longer period is specially authorised by headquarters. The voucher covering the issue is to be endorsed "Issued on loan for a period ofexpiring.....". The original copy of the loan voucher is to be signed and returned to the Inspector-in-charge, A.I.D. Test House, and the duplicate copy is to be annexed to the relevant personal or station inventory. Loan items of equipment are not to be recorded on the inventory. If, before the expiration of the loan period, it is found that the equipment is no longer required, the Inspector-in-charge is to inform the Inspector-in-charge, A.I.D. Test House, accordingly. The latter is responsible for notifying Inspectors holding loan equipment, as soon as the loan period expires. The equipment on loan is then to be returned or, if it is required for a longer period, an application is to be made for an extension of the loan period. Before making an application for the extension of the loan period, the Inspector is to consider carefully whether the equipment should not preferably be returned to the Test House for re-checking, such periodical re-check being of special importance where gauges or other measuring appliances are concerned. If he decides that the equipment or any part of it requires re-checking, he is to proceed as in Leaflet R. 5., para. 1 (i), and at the same time make an application for its replacement and an extension of the loan period. The Inspector-in-charge, A.I.D. Test House, is authorised to extend the period, if he is satisfied that the application for extension is justified. If he is not satisfied, he is to refer to headquarters. The letter authorising an extended period is to be annexed to the duplicate copy of the loan voucher, which is attached to the relevant personal or station inventory.

CUSTODY AND MAINTENANCE OF EQUIPMENT

1. *Classification.*—Equipment is classified as "A", "B" or "C" stores. "C" stores are consumable and are to be struck off charge as and when consumed. Paint, oil, and similar articles are "C" stores. All "C" stores are to be so classified when issued. Electric bulbs, files, rasps, glass, glassware and similar articles are classified either as "A" or "B" stores. All "A" or "B" stores are to be returned to A.I.D. Test House, when no longer required, repairable or unserviceable. Equipment returned to the A.I.D. Test House is to be detailed strictly in accordance with the description given on the inventory.

2. *Care of equipment.*—Equipment is on the charge of the individual to whom it has been issued, who is personally responsible for its safe custody, condition, return or consumption. Staff having equipment on their charge are reminded that loans of such articles are made by them at their own risk, and that they remain responsible for safe return in due course. Equipment (except consumable stores) which is issued to individuals for their personal use will be known as "personal equipment", and will normally move with the holder. Where equipment (except consumable stores) is issued to Inspectors-in-charge for station use, such equipment will remain at the station. Where the Inspector-in-charge vacates charge, he is formally to hand over all such station equipment to his successor. (See Leaflet R.8.).

3. *Inventories.*—Inventories (Form 37) will be maintained in duplicate. The original copies of all "station" and "personal" inventories are to be retained in A.I.D. stores, the duplicate copies being held by the individuals having the equipment on their charge.

4. *Periodical check of equipment at home.*—In order to ensure that the equipment held corresponds with the inventory and that the duplicate inventory corresponds with the original, at least once in each period of twelve months a check is made of each personal and station inventory by a member of the A.I.D. other than the individual responsible for the equipment. The Inspector-in-charge, A.I.D. Test House, is to advise the A.C.I. concerned, when any inventory is due for this check. This A.C.I. is then to arrange for its checking by an independent member of the A.I.D. staff, and is to inform the Inspector-in-charge, A.I.D. Test House, of the name of the individual selected and date on which the check is to be made, in order that the original of the inventory may be sent to that individual before the due date. When checked, the inventories, original

and duplicate, are to be signed and dated both by the independent checker and the individual holding the equipment. The original is then to be returned to the Inspector-in-charge, A.I.D. Test House, with a covering letter reporting any surplus, deficient or unserviceable equipment. No alteration in the inventory is to be made until advice has been received from the Inspector-in-charge, A.I.D. Test House.

5. *Periodical check of equipment at overseas stations.*—It is usually impossible to arrange for a periodical check of inventories by an independent member of the A.I.D. staff; but, whenever there is to be a change of Inspector-in-charge at an overseas station the A.C.I. concerned is to instruct the Inspector-in-charge, A.I.D. Test House, to send the original inventory to the station, in order that it may be checked during the handing-over.

6. *Equipment of staff, who are being released, etc.*—
(i) Before the release of an individual, whose employment in the A.I.D. is about to terminate, the Inspector-in-charge under whom he is employed is responsible that the items shown below are handed over by the individual, and that Headquarters are notified in sufficient time to allow of the recovery from the final payment of the individual's salary or wages of the cost of the replacement of any deficiencies:—

- (a) Equipment issued on loan from station inventory.
- (b) Equipment held on personal inventory.
- (c) A.I.D. Pocket Book (A.M. Form 1415), or A.I.D. Pass (A.M. Form 620).
- (d) A.I.D. Standing Orders (A.P. 1455).
- (e) A.I.D. Inspection Instructions.

(ii) The equipment, when handed over by the individual, is to be disposed of, as follows:—

- (a) Retained at the station.
- (b) Returned to the Inspector-in-charge, A.I.D., No. 1 Test House, together with the personal inventory.
- (c) } Returned to I.G.
- (d) }
- (e) }

DISPOSAL OF INSPECTION EQUIPMENT ON THE CLOSING OF A STATION OR TRANSFER OF THE INSPECTOR-IN- CHARGE

1. When a station, &c., is closing, the A.C.I. concerned is responsible that the Inspector-in-charge, A.I.D. Test House, is notified in order that special arrangements may be made for checking and taking over the equipment on station charge. This does not apply to the closing of resident stations controlled and administered by an office, in which instance the Inspector-in-charge is responsible for clearing the station inventory.

2. When an Inspector-in-charge is changed, the A.C.I. concerned is responsible for notifying the change to the Inspector-in-charge, A.I.D. Test House. The latter will forward the original copy of the station inventory to the station concerned. The incoming Inspector will check the equipment on station charge from the original inventory in the presence of the outgoing Inspector, and is to proceed as follows :—

(i) The inventory (Form 37) is to be signed and dated at page 1 by the Inspector taking over, and returned to the A.I.D. Test House forthwith. No alterations or additions are to be made to the inventory. Where equipment is found to be surplus or deficient, a discrepancy report signed by both the incoming and outgoing Inspectors-in-charge is to accompany the inventory. A specimen discrepancy report is given below.

(ii) When the incoming Inspector-in-charge does not arrive in time to take over from the outgoing Inspector-in-charge, the latter is to hand over to the next senior member of his staff present, who will proceed as at (i) above, but will retain the inventory and discrepancy report (if any) until the arrival of the incoming Inspector-in-charge.

Specimen.

The Inspector-in-charge, A.I.D.,
Test House,
No. 1 Stores Depot, R.A.F.,
Kidbrooke, S.E.3.

DISCREPANCY REPORT.

Taking over Station Equipment at

.....

The following discrepancies are reported when taking over the above equipment as checked against the original inventory, which is returned herewith.

DEFICIENCIES.

Article.	Number found deficient.	Remarks and signature of Inspector handing over.

SURPLUS.

Article.	Number found surplus.	Remarks and signature of Inspector handing over.

Sgd.

Inspector-in-charge taking over

at

Date.

PROTECTIVE CLOTHING

1. Protective clothing may be provided from public funds in the following instances :—

(i) For dirty or destructive work or other special work calling for protective clothing, where such work does not form part of the normal duties for which the individual was engaged.

(ii) On safety grounds or under the provisions of Chapter 3 of Armament Training Manual, A.P. 1245, Part IV.

(iii) In conformity with a general established custom of the trade.

(iv) For staff authorised to fly.

2. Inspectors-in-charge desirous of obtaining protective clothing for the use of themselves or members of their staff are to submit their applications to I.G.

3. Protective clothing will normally be issued to station charge and re-issued on loan to individuals as may be necessary. In special instances where protective clothing is issued to personal charge, issue to be made on loan only.

4. Inspectors-in-charge, holding protective clothing on their station inventory, are responsible that it is maintained in a clean and serviceable condition. Where cleaning or repairing of articles of protective clothing is considered necessary, the matter should be referred to I.G. for instructions.

RECRUITMENT AND PROBATION

Application

1. Vacancies in the grades of examiner, or assistant examiner, will normally be advertised in the daily and technical press.

2. Applications received in answer to an advertisement will be passed by S.2.(d) to the A.C.I. of the division concerned, who will scrutinise every application and prepare a "short list" of candidates whose qualifications and experience, from the A.C.I.'s point of view, warrant their attendance for personal interview. This list of candidates for interview will be passed to S.2.(d) as early as practicable with the request that a Selection Board be convened.

3. Recruitment to grades senior to the foregoing will be dealt with specially, each on its merits.

4. The foregoing procedure will not apply to candidates for engagements as viewers, heads of divisions making their own arrangements direct with S.2.

5. No travelling expenses or allowances of any kind are payable to a candidate in respect of attendance for interviews prior to engagement. In the event of candidates being selected for engagement, they will be required to undergo a medical examination at their own expense, and no expenses can be borne by the department in connection with taking up the appointment.

Entrance Examination

6. Final selection of candidates for appointment will be by personal interview at the Air Ministry.

7. A Selection Board normally consists of a representative of the Civil Service Commission (Chairman), the C.I.E., representatives of the Establishment Division and of the A.I.D. Division concerned. It will be convened by S.2.(d), who will notify members of the date, time and venue of the Board, and will arrange for the attendance of the candidates selected for interview. The heads of divisions will ensure that their representatives will be chosen to suit the nature of the work, for which the new entrant is required.

8. The number of candidates selected need not be restricted to the number of vacancies, but if suitable candidates are available, a reserve list should be created to provide against the contingency of further vacancies arising in the near future.

Appointments on Probation

9. Candidates selected for appointment by the Board will be appointed on probation in the order determined in the Board's report to fill vacancies as they arise. The probationary period will normally be for 3 months, and new entrants will be "attached on probation" during the period of their probation.

10. Subsequent to the Board, A.C.I.'s concerned will notify S.2.(d) of the station to which the new entrant should report for probationary duty and should also state if it is intended that he will remain at that station on the satisfactory termination of his probationary service. The necessary arrangements will be made by S.2.(d) for the new entrant to commence his duties with the A.I.D., and notification of the date on which the new entrant commences duty will be sent by S.2.(d) to the A.C.I. concerned and to the Inspector-in-charge Station concerned.

11. Except under express authority from headquarters, A.I.D. inspection stamps will not be issued to new entrants at the commencement of their probationary period, but Inspectors-in-charge may demand a set of inspection stamps from I.G. as soon as they are satisfied that issue is warranted. A probationer will not sign or countersign official documents in connection with inspection until a set of inspection stamps has been issued to him.

12. If a probationer appears likely to become satisfactory, an interim report will be rendered at the end of six weeks by his Inspector-in-charge on the probationer's ability and conduct. This will be followed by a full report at the completion of 3 months' total service. If it is seen at any time during the probationary period that either the probationer's ability or conduct is such that he is unsuitable for appointment, the Inspector-in-charge is to report at once to headquarters. These reports will be considered by the head of the division concerned, who will recommend to D.A.I. either—

- (i) confirmation of appointment ;
- (ii) extension of probationary period ; or
- (iii) release of the probationer, as being unlikely to prove suitable for employment in the A.I.D.

POSTING, TEMPORARY ATTACHMENT, ATTACHMENT ON PROBATION AND ATTACHMENT FROM RESERVE POOLS

1. Every member of the A.I.D. staff is stationed at a branch, resident station, office, bond, or test house under one of the following designations :—

- (i) Posted.
- (ii) Temporarily attached.
- (iii) Attached on probation.

Instructions in connection with posting, temporary attachment, and attachment on probation, are issued by headquarters with the exception of short periods of temporary attachment referred to at para. 3 below. Instructions issued by headquarters are to be recorded on the "posting" files of the individuals concerned and the files passed to I.G., S.2.(d) and F.Q.(d) for notation and notification in Monthly Orders. A questionnaire is sent to each individual with his posting letter, *see* para. 2 (iv).

2. *Posting*.—(i) The normal period of posting is :—

(a) Assistant Inspectors (other than A.I.2) and senior staff.—Not less than three or more than four years.

(b) Assistant Inspectors II.—Not more than one year.

(c) Grades junior to above will be reposted according to the exigencies of the service, their normal period of posting being not less than four or more than five years.

(ii) Removal expenses may be claimed in connection with posting under the regulations contained in A.P. 1414.

(iii) All claims (including the personal claims of heads of branches and Inspectors-in-charge) are to be forwarded direct to F.Q.(d) for pre-audit, after counter-signature by the head of branch or the Inspector-in-charge. All correspondence in connection with the claim is to be similarly dealt with.

(iv) The remarks column of claims should be endorsed "Posted from..... to..... on..... Authority—(H.Q. reference)". The initial claim should be accompanied by the questionnaire duly completed. Imprests, when required, will be issued by F.Q.(d) to applicants posted to headquarters, and by Imprest holders to applicants posted to outstations.

(v) The amount of imprest is limited to the actual cost of removal based on the lowest tender obtained.

(vi) The date on which staff report for duty at their new station should coincide with the date of their posting.

3. *Temporary attachment.*—(i) When temporarily attached to another station, &c., staff will receive written instructions from headquarters, but Inspectors-in-charge Offices may arrange for the temporary attachment of members of their staff up to periods of five nights without reference to headquarters.

(ii) Instructions regarding temporary attachment when issued by headquarters should, whenever possible, define the initial period of attachment together with the rate of subsistence or other allowances admissible. Instructions to extend the period of temporary attachment will be similarly issued by headquarters. In all instances of doubt as to the rate of subsistence allowance, &c. admissible, the matter is to be referred to F.Q.(d) before definite instructions are issued.

(iii) Claims submitted in connection with subsistence allowance, cost of season tickets, &c., are to be dealt with as follows :—

(a) Claims of office staff in connection with temporary attachment authorised by the Inspector-in-charge are to be forwarded to F.Q.(d) for pre-audit after counter-signature by Inspector-in-charge.

(b) All other claims, including personal claims of heads of branches and Inspectors-in-charge are to be forwarded to the A.C.I. concerned for counter-signature and pre-audit.

(iv) All claims are to be endorsed “Temporarily attached from (station)..... to (station).....
from (date)..... to (date)..... Authority.....”

4. *Attachment on probation.*—(i) A new entrant will whilst undergoing probation be “attached on probation”. Subsistence allowance as laid down in A.P. 1414 may be claimed if he is necessarily separated from his family or dependents provided he is informed that he will *not* be posted to the station where he is attached for his probationary service nor to a station in its vicinity. Single men will not normally receive subsistence allowance.

(ii) New entrants who during their probationary service, are temporarily attached to another station or are required to attend A.I.D. Test House, Kidbrooke for a short period, may claim subsistence allowance for the temporary duty, provided it is admissible under A.P. 1414.

(iii) All claims are to be endorsed “Attached on probation at (station).....from (date).....
to (date).....,” initialled by the Inspector-in-charge and forwarded to the A.C.I. concerned for counter-signature and pre-audit.

5. *Attachments from reserve pools.*—(i) To meet emergencies due to sudden temporary increases in the rate of production at out-stations, to extended periods of sickness, or to other reasons, a reserve of examiners and lower ranks will be maintained as under :—

(a) For the Aircraft Division at No. 3 Stores Dépôt, Royal Air Force.

(b) For the Engine Division, under A.C.I.E. at No. 4 Stores Dépôt, R.A.F., under A.C.I.Arm. at No. 1 and No. 2 Stores Dépôt, R.A.F., and under A.C.I.Inst. at the A.I.D. Test House.

(ii) Normally these examiners and other ranks will be employed at the respective stores dépôts on ordinary inspection duties, but they will be available for temporary attachment to any station at short notice, as occasion may arise. It is not intended that any specific individuals should be listed for this reserve; it is rather the intention to draw on any suitable member of the A.I.D. staff at the dépôts concerned.

(iii) Inspectors-in-charge at each of the dépôts and the A.I.D. Test House are so to arrange the work that it will be possible to draw from the reserve at short notice without detriment to the normal work of the dépôt. They will be instructed from time to time by heads of divisions as to the number of men at each dépôt who are to be held available as a reserve.

(iv) The reserve being intended for fluctuating conditions only, it is to be understood that the period of temporary attachment away from the stores dépôt should not exceed three months in any one instance. Where such a period is likely to prove inadequate, the matter should be adjusted rather by the posting of additional staff than by the use of reserve staff.

(v) Inspectors-in-charge at outstations who require assistance from the reserve must apply to headquarters. The Inspectors-in-charge at the stores dépôts concerned and the A.I.D. Test House will act only on receipt of instructions from headquarters, but will remind headquarters if any man sent out from the reserve is absent for more than three months.

(vi) There is no specific reserve pool for office staff under C.I.S. but arrangements can be made whereby in emergency reserve staff of the divisions and branches mentioned above may be temporarily attached to an office. When the Inspector in-charge of an office receives a contract, the inspection of which calls for the services of an additional man, he should report the circumstances in full to A.C.I.S.2., stating the probable period for which the additional staff is required. A.C.I.S.2. will then endeavour to arrange with the head of the division or branch concerned for the temporary attachment.

(vii) During periods of annual leave, arrangements may be made by A.C.I.S.2. whereby the staff in the larger offices may be utilised as a reserve pool for the temporary replacement of staff in the smaller offices.

Claims—general procedure

6. Claims for removal expenses and subsistence allowances are not to be paid until duly pre-audited by F.Q.(d). In order that Inspectors-in-charge making advances in connection with removal expenses and subsistence allowance, &c. may ultimately recover the sums advanced by them, the relevant claims will be returned to them for payment after pre-audit.

TRAVELLING

1. Regulations in connection with travelling on duty are contained in A.P. 1414, and the attention of all concerned is particularly drawn to the paragraph concerning economy in arranging journeys, para. 10 of A.P. 1414.

2. Heads of branches and Inspectors-in-charge may authorise the staff serving under them to travel on duty. A.C.I.'s will authorise the travelling on duty of heads of branches and Inspectors-in-charge.

3. Journeys by train are to be made on railway warrants in accordance with A.P. 1414, para. 14.

4. (i) Journeys by private motor vehicles may also be made when travelling on duty in accordance with A.P. 1414, para. 27.

(ii) Where it is required to use private motor vehicles and claim mileage allowance under para. 27 (iii) prior authority is required as under :—

For heads of branches
and Inspectors-in-charge.
For subordinate staff.

The written authority
of the A.C.I. concerned.
The head of branch or
Inspector-in-charge under
whom the individual is
serving.

(iii) Where the use of a private motor vehicle is authorised, the resulting travelling claim must show, in addition to the time of commencement and termination of the journey, the actual time at which each destination, visited on duty, was reached and left.

5. Where it is required to use private motor vehicles and claim special mileage allowance under A.P. 1414, para. 27 (iv), the prior authority of D.A.I. will be required and is to be obtained through the head of division. In instances of emergency when time does not permit of the prior authority of D.A.I. being obtained, Inspectors-in-charge may use private motor vehicles or authorise their use by members of their staff. Claims for these particular journeys should be rendered separately and should be supported by an application for the special mileage allowance giving full details of the circumstances which it is considered justify the payment of the rate. Failure to furnish adequate substantiation may however involve disallowance of the claim for the higher rate and all concerned are therefore warned to exercise the utmost discretion before deciding that such a journey is warranted.

6. When regular journeys are made to a destination which cannot be reached by public transport or can be reached only by excessive waste of working time or at disproportionate expense, special standing authority may be given by D.A.I. to the staff concerned to proceed on such journeys and claim special mileage allowance under para. 27 (iv). Applications should be made to the head of the division.

7. Special attention is directed to A.P. 1414, para. 27 (x). In addition to having the "Policy" and "Certificate of Insurance" endorsed to cover use of the motor vehicle for official duty journeys, it is also a definite requirement of these regulations that the "Policy" and "Certificate of Insurance" be endorsed to cover the carriage of official passengers in respect of whom an additional allowance may be received. Policy holders must ensure that their policies are suitably endorsed.

8. The official countersigning a claim in connection with journeys made by an individual's own private car will insert in the "remarks" column the words "use of own private car authorised" followed by his signature.

9. (i) *Travelling Warrants*.—Individuals to whom travelling warrant books are issued are responsible for their safe custody. They will forward counterfoils of completed books to the Inspector-in-charge A.I.D., Test House. The counterfoils will be retained for reference purposes in the A.I.D. Test House for a period of six years from the date of issue of the earliest warrant in the book. At the end of six years they will be destroyed.

(ii) Where an individual requires a new warrant book, he is to demand it from the A.C.I. of his division. Where uncompleted warrant books are no longer required, for instance, at the closing down of a station, they are to be returned to the A.C.I. concerned.

10. (i) Except in special instances, as detailed in A.P. 1414, staff whose salary is less than £750 per annum are not entitled to travel first class by rail.

(ii) In exceptional circumstances staff who are not normally entitled to travel first class by rail and are required to journey at night may be authorised to travel by 1st class sleeping car. Such night journey will only be considered as justified, where the exigencies of the work necessitate attendance at the further end of the journey at an earlier hour than can be secured by using the first morning train and where pressure of official duty or other unavoidable circumstances prevents the individual from proceeding, and/or returning by day train. This concession is restricted to staff at headquarters and Inspectors-in-charge and will only be necessary between London and Newcastle, Carlisle or beyond or to Northern Ireland.

(iii) Applications, which should be submitted to the head of division on special forms (obtainable from I.G.), will if approved by D.A.I. and concurred by F.Q. be returned to the applicant for attaching to the relevant travelling claim.

11. Claims for expenses and allowances incurred as a result of travelling on duty are to be dealt with as under :—

Claims of Inspectors-in-charge and staff at headquarters.

To be forwarded to the A.C.I. concerned for counter-signature and pre-audit.

Claims of staff other than Inspectors-in-charge and staff at headquarters.

To be countersigned by Inspectors-in-charge and forwarded direct to F.Q.A. for pre-audit.



OPENING AND CLOSING OF RESIDENT STATIONS AND OFFICES

1. Offices and resident stations are normally controlled from headquarters, although there are certain group offices and resident stations which are directly controlled by the Inspector-in-charge of an office.

2. The duties in connection with the opening of offices and resident stations are, as follows :—

(i) Where hiring is necessary, the A.C.I. concerned is either to notify I.G., stating the accommodation required, the locality and the proposed date of opening, or is to arrange with the contractor concerned, if the latter is liable for providing office accommodation at a resident station. He is also to arrange for the posting of technical staff and the engagement of typing and/or clerical staff, when required, and to arrange for the issue of imprest (when necessary), equipment and the current circular letters of all divisions.

(ii) I.G. is to find accommodation, in conjunction with the A.C.I. concerned, and arrange for its hiring. He is to provide furniture, telephone, lighting, and arrange for cleaning staff in all hired buildings, to provide for the issue of orders, inspection instructions, air publications and specifications, to provide typewriters, where required, and to make the necessary notification in monthly orders.

3. The duties in connection with the closing of offices and resident stations are, as follows :—

(i) When a hiring is to be surrendered, the A.C.I. concerned is to notify I.G. in advance and, when closing a resident station, he is to notify the contractor. The A.C.I. concerned is also to arrange for the re-posting of technical staff, the disposal of industrial, typing and clerical staff and is to arrange for the closing of imprest.

(ii) I.G. is to arrange for the surrender of hired accommodation, to arrange for the disposal of cleaning staff, to arrange for the disposal of furniture, telephone, typewriters, records, etc., in hired accommodation and also at contractors works, where these items are Air Ministry property. He is to make the necessary notification in monthly orders.

ATTENDANCE AND TIME-KEEPING OF A.I.D. OUT-STATION STAFF

1. The minimum working hours of A.I.D. outstation staff are $40\frac{1}{4}$ a week net, *i.e.*, exclusive of meal-times. Industrial grades work such hours as are fixed for their respective trades ; these hours are notified to the Inspectors-in-charge under whose supervision they work.

Staff Posted to Stores Dépôts

2. *Hours of duty.*—A.I.D. technical staff posted to any R.A.F. stores dépôt observe the normal hours in force at the dépôt.

3. *Attendance records.*—Inspectors-in-charge at stores dépôts are to see that the regulations laid down in A.P. 826 are carried out so far as their staff is concerned, and will collaborate with the civil assistants for that purpose. Inspectors-in-charge are to report on habitual bad time-keeping directly to the head of the appropriate division. Attendance books are to be signed at the actual times of arrival and departure.

4. *Staff under temporary attachment to or from a stores dépôt.*—
(i) A.I.D. staff temporarily attached to a stores dépôt will continue to be paid through their station of posting, and their attendance at the dépôt is to be recorded in a separate book, marked "Attendance of staff temporarily attached". In all such instances a monthly return on A.M. Form 1113 is to be rendered to S.2d. at the end of each month.

(ii) A.I.D. staff posted to a stores dépôt, but temporarily attached away therefrom, will continue during their absence to be shown in the attendance book. The Inspector-in-charge will record against their names the entry "Temporarily attached to.....from.....to.....". In each such instance the Inspector-in-charge at the stores dépôt is responsible for obtaining from the Inspector-in-charge to whose staff the individual is temporarily attached a monthly certificate of attendance on A.M. Form 1113.

Staff Posted to Offices

5. *Hours of Duty.*—Normal hours of duty at an A.I.D. office are 9.00 a.m. to 5.30 p.m., with one hour for lunch ; on Saturdays from 9.00 a.m. to 11.45. a.m.

6. *Attendance at office.*—Each individual posted or attached to an office should visit it at least once a day, unless he is allotted outside duty extending over more than one day and is definitely instructed by the Inspector-in-charge that he need not visit the office while so employed.

7. *Attendance book*.—The office attendance book is to show the times at which each individual actually starts and finishes work at his normal place of duty. On the occasions when he travels directly between his home and a place of duty other than normal he will, on his return, enter in the office attendance book the times of leaving and returning home corresponding with those shown in his travelling claim, together with the times at which he reached and left the place where he has been doing duty. In other instances of absence on duty away from his normal place, he will enter the times at which he began and finished work.

8. *Record of visits*.—In addition to the attendance book, a "Record of Visits" book is to be maintained at each office, showing where each individual has been on each day. The book should be ruled so as to give a folio (double page) to a week, the ruling and entries being similar to those in the chart issued to offices. Whenever possible this record should be filled in by each individual before he proceeds on duty, so that he can be located at short notice.

Staff Posted to Resident Stations

9. *Timekeeping and recording*.—The hours of starting and finishing work at resident stations must be arranged to suit local conditions, and no general rule can be laid down, save that Inspectors-in-charge are responsible that an attendance book is maintained, that it is a correct record, and that a minimum week of 40½ hours net is worked by each member of the A.I.D. staff, any "short time" being made up during the month. (See para. 3 as to signing of attendance books).

General

10. *Extension of working hours*.—In adjusting the hours at a station to suit the work, it is not admissible that any individual be exempted from attending for an entire day, except under very special circumstances and then only when prior authority from A.I.D. headquarters has been obtained. Further, extra time is to be worked by extending the working hours. It is not permissible to achieve this by curtailing the luncheon interval; this latter measure is permissible only to meet urgent work that must necessarily be done during that interval.

11. *Monthly return of salaried staff*.—On the last day of each month, a return of all salaried staff is to be rendered to S.2, on A.M. Form 113, by heads of branches and by all Inspectors-in-charge of outstations except stores depôts. All staff, whether posted or temporarily attached, are to be included in the return, as given on the back of the form. Medical certificates supporting absence due to sickness should be forwarded to S.2(d) immediately they are received. The date of forwarding is to be recorded on A.M. Form 1113 (Col. 9).

12. *Weekly return of weekly paid staff.*—Except at stores depôts and Croydon Aerodrome, each Inspector-in-charge whose staff includes any weekly-paid member is to render to S.2d each Saturday, on A.M. Form 1095, a return of such weekly-paid staff. It is to be specially noted that the return must be made where an individual has been absent throughout the week owing to sickness or leave. Medical certificates in support of sick leave are to be recorded in the return and forwarded securely attached thereto.

13. *Hours of work for clerks and typists.*—The normal working week for clerks and shorthand-typists is $40\frac{1}{4}$ hours, excluding meal-times.

14. *Overtime.*—On the 1st of each month Inspectors-in-charge at all outstations are to forward to the head of the division concerned a return showing the amount of overtime worked by technical staff during the preceding month. This return is to be rendered on the reverse side of A.M. Form 1201 and is to include the name of each individual of the technical staff, posted or attached. Against each name is to be shown the amount of overtime worked or the word "nil". Names are to be in order of grades downwards. The return is to be headed "Overtime at.....(station).....for the month of.....". Where no overtime has been worked during a month a nil return is to be rendered.

15. *Allocation of Cost of Inspection.*—In order that the cost of inspection may be correctly allocated to the various votes and subheads, every member of the A.I.D. is required to maintain a card record, showing how his working time has been spent. The detailed requirements in this connection are published in A.I.D. Monthly Orders from time to time, as necessary.

A.I.D. PASS AND PERSONAL RECORDS

1. A.I.D. pass for technical staff.—The A.I.D. pocket book (A.M. Form 1415), copies of which are issued to all grades of technical staff, contains the A.I.D. pass for obtaining entry into R.A.F. premises and contractors' works. Holders of A.M. Form 1415 are responsible that the pass contains their photograph and signature and also the countersignature of D.A.I.

Where the holder has passed the A.I.D. car-driving test the fact will also be recorded. Passes requiring the signature of D.A.I. are to be forwarded to I.G.

2. A.I.D. pass for clerical, typing and industrial staff.—A.M. Form 620 is to be used as an A.I.D. pass by clerical, typing and industrial staff. It is not necessary for the photograph of the holder to be inserted, but the pass must contain the signature of the holder and also the countersignature of the Inspector-in-charge.

3. Custody of A.I.D. passes.—A.M. Form 620 or A.M. Form 1415 is issued to each member of the staff and is to be carried by him when on duty, and to be produced on demand. These passes are the property of the Air Ministry and every care is to be taken to prevent their loss. Any member leaving the Directorate must surrender his pass. The loss of an A.I.D. pass is to be reported immediately to the A.C.I. concerned.

4. Personal records.—All new entrants of the grade of assistant examiner and above are required to complete A.M. Form 622 (record of service) on joining and they are personally responsible that changes in their next-of-kin and/or their permanent addresses are immediately notified to I.G., in order to ensure the correctness of their personal records, maintained at headquarters.

ANNUAL CONFIDENTIAL REPORTS

1. An annual confidential report is to be rendered on 1st January in each year in respect of every individual in all technical grades from Assistant Examiner upwards ; also for each clerical officer and clerk. A.M. Forms 832, which are to be used for this purpose, will be distributed in advance by A.C.I.'s.

2. The procedure for the rendering and countersignature of these reports is as follows :—

Grade.	Report rendered by	Countersigned by
1.	2.	3.
Inspector and above ..	Head of division ..	D.A.I.
Assistant Inspectors ..	Head of branch ..	Head of division.
Chief Examiners and below	Inspector-in-charge, under whom the individual is serving.*	A.C.I. concerned.

* Subject to the limitation in para. 3.

3. When a member of the A.I.D. staff would, under this procedure, be called on to render a confidential report on another member of the staff who is not junior to him in grade, he is not permitted so to report, but must refer the matter to headquarters. Where a member of the A.I.D. staff has, during any year, carried out as a deputy the duties of a grade higher than his own for a period not less than six consecutive days, the fact of his having done so, and some indication of the degree of success with which he carried out the higher duties, should be recorded in the annual confidential report. It is therefore advisable to keep a careful record of all such occurrences.

COURSES OF INSTRUCTION

1. Arrangements have been made for certain courses of instruction to be attended by A.I.D. staff.

2. Wherever possible each course will be followed by an examination, in order to ascertain how each individual has been able to assimilate the knowledge imparted to him.

3. The fact that an individual has attended a course will be announced in A.I.D. Monthly Orders and recorded in his personal papers; a record will also be made, in the latter papers, of the result of examination, where one has been held.

4. The following courses of instruction are arranged :—

(i) All new entrants to the grade of examiner in the aircraft division may be temporarily attached for a period to the A.I.D. Test House during their probationary period and before being posted to their first station. C.I.E. and C.I.S. will be free to propose any entrants to their divisions whom they may select for such courses.

(ii) All assistant inspectors in the aircraft and certain selected assistant inspectors in the other divisions will undergo a course of civil aircraft inspection.

(iii) Certain selected assistant inspectors in the aircraft division are to take a course on adjusting compasses in aircraft. These courses have been specially arranged with the Director, Admiralty Compass Observatory, Langley, Bucks., where the courses will take place. The normal time spent at Langley is five days, and an examination is held on the last day.

(iv) Certain selected assistant inspectors will undergo a special course in metallurgy. This course will be arranged at a university with, where possible, intermediate visits to steel works. The normal period of the course is two weeks.

5. Each individual will be given full instructions prior to entering any of the above courses.

6. Other courses of instruction may be arranged from time to time, provided the authority of D.A.I. is first obtained.

ANNUAL LEAVE

1. The annual leave period for A.I.D. staff is as follows :—

Headquarters clerical staff 1st March to end of February.

All other grades, head- 1st December to end
quarters and outstations. of November.

The conditions governing annual leave, and the amounts permissible are laid down in Office Instructions and Air Publication 826.

2. Staff posted abroad will be allowed to take their accumulated leave, if any, on their return home ; the amount of accumulated leave which may be so taken is limited to two months (48 working days). Assistant Examiners (acting) whilst serving overseas are allowed 18 days leave a year. Accumulated leave may if they so desire be taken on conclusion of their overseas tour of duty. If the leave is taken after their arrival in the United Kingdom the rate of pay admissible during the leave period will be the rate applicable to their substantive appointment, *i.e.* Viewer.

3. Attention is drawn to Air Publication 826, which states that "leave is not a right and can only be allowed provided that the exigencies of the public service permit of its being given". In normal circumstances the greatest pressure of work falls on A.I.D. staff during January, February and March. Annual leave at outstations is, therefore, to be arranged within the remaining nine months, and applications for leave during the period 1st January to 31st March (other than "works closed" periods) will not be considered unless supported in writing by strong special reasons. At A.I.D. headquarters, heads of branches will be responsible that leave within their respective branches is so arranged as to cause the least possible disorganization and delay to the work. They will submit their proposals in chart form to the head of the division for sanction.

4. Leave charts will be maintained by Inspectors-in-charge for all personnel at their stations, &c. Inspectors-in-charge will submit their proposals to headquarters, proposals for the ensuing month being submitted not later than the middle of the current month, and as much earlier as circumstances permit. Subject to the limitation in the preceding paragraph, they are responsible that the leave is so arranged as to cause the least possible interference with the normal duties of the station, and that the "works closed" periods have been included in the leave authorized ; but staff may hold back, if they so desire, six days of their leave, which may be

authorized by Inspectors-in-charge as the work permits, without prior reference to headquarters. Inspectors-in-charge are not at liberty to depart from proposals that have been approved by headquarters without prior headquarters authority for such alteration. On the other hand, where through unforeseen causes the leave originally approved cannot be completed without undue depletion of staff, Inspectors-in-charge are expected to suggest the necessary alterations to headquarters. Complete leave charts will not be submitted to headquarters.

5. Leave charts for each station will be maintained at headquarters and will be entered up as the proposals submitted are approved.

6. The leave of Inspectors-in-charge is entirely a matter for arrangement with the heads of divisions.

FLYING BY A.I.D. STAFF

1. Under the terms of their engagement, members of the staff of the A.I.D. are liable to be called upon to undertake flying duties, should the nature of their work require it. It is the policy of this directorate to encourage flying by its staff as much as possible, but it is to be understood that all members of A.I.D. staff are definitely prohibited from taking part in:—

(i) The first flight of an aircraft of a new or modified type.

(ii) A flight which, from the nature of manoeuvres which it is intended to perform, might be described as hazardous. Any flight to an altitude exceeding 15,000 feet is classed as hazardous.

Inspectors-in-charge individually are to exercise discretion as to the necessity for any members of the staff to fly.

2. It is, however, laid down in Office Instructions, and in Air Publication 826, that civilian staff and employees are not to be sent into the air unless they have been medically examined and certified to be free from any physical disability likely to affect them adversely while in the air, or liable to be aggravated by flying.

3. It is accordingly essential that, before any individual undertakes any flying duty, he be in possession of a document authorising him to do so. Before any member of the A.I.D. staff may fly in connection with his duties on behalf of D.T.D. or D.S.R., prior instructions in writing must be received from the directorate concerned in each instance (*see also* para.7).

4. If there is any likelihood that a member of the staff who is not already authorised to fly may be required to undertake such duty, the Inspector-in-charge is to render to headquarters an application that arrangements be made for medical examination.

5. If declared fit, the individual will receive from headquarters written advice that he is authorised to fly.

6. Should an individual, holding authority to fly, contract an illness likely to impair his fitness for such duty, or should he at any time feel that he is temporarily or permanently incapable of carrying out flying duties, he is to report the matter immediately to his Inspector-in-charge, who will refer it to headquarters. A ruling will then be given as to the need for another medical examination. The onus of so reporting devolves on the individual concerned, and its importance cannot be too strongly urged, since it may affect the question of compensation for accidents. The latter is detailed in Appendix II to A.M.O.A. 297/35 a copy of which is issued with each letter of authority to fly.

7. As a matter of general guidance, the following are regarded as "duty" flying :—

(i) Flights by A.I.D. staff in connection with their duties when inspecting "production" or "subsequent" aircraft or engines.

(ii) Flights at R.A.F. units by A.I.D. staff, whether attached for a course or visiting on duty.

(iii) Flights in connection with re-inspection of civil aircraft for certificates of airworthiness, or in connection with supervision of ground engineers.

(iv) Flights in overseas commands by A.I.D. staff when such flights are authorised by a senior R.A.F. officer.

(v) Flights authorised in writing by D.T.D. or D.S.R. as notified in para. 3.

(vi) Any other flight which the individual is expressly instructed to make.

On the other hand, the use of air transport by any member of the A.I.D. for his own convenience is definitely excluded from the category of "duty" flying, even when travelling to or from a place of duty, except as at (iv) and (vi) above and as provided in A.P. 1414. Inspectors-in-charge are, however, authorised to sanction such a flight by themselves or their staff in the event of their being required for definite and urgent duty at a place to which an aircraft is about to proceed, and when time and money can be saved by flying instead of travelling in the ordinary way. Any individual already authorised to fly, who is about to make a flight which is not clearly covered by the above definitions, should apply to headquarters for a ruling, or loss of compensation may ensue in the event of accident.

8. A book record will be maintained at each A.I.D. station where flying occurs. In this flight record book are to be entered the details and purpose of every flight made by a member of the A.I.D. staff, the only exception being a journey made by air route and covered by the issue of a warrant. Where the flight is made at, or from, the station itself, these particulars must be entered by the individual before the flight. Where, however, a member of the staff leaves his station to undertake some temporary duty which may necessitate a duty flight elsewhere for one of the purposes laid down in para 7, he must obtain prior written authority so to fly. The Inspector-in-charge will apply to headquarters for such authority. Subordinate staff will receive authority from their Inspector-in-charge by means of the form as detailed below. Such authorities will in all instances be in duplicate, one copy being inserted in the station book to provide against loss of the original. Details of flights carried out away from the station are to be entered in the book record by the individual on his return.

9. For staff serving in overseas commands, the senior Officer's authority referred to in para. 7 (iv) replaces the above procedure, but the book record is still to be maintained.

“TEMPORARY AUTHORITY FOR DUTY FLIGHTS

To.....

In connection with your visit to

you are hereby authorised to make such flight(s) as you find necessary for the discharge of your duties.

Signature.....

A.I.D. Appointment.....

.....

Date.....

”

Note.—This form is to be made out in duplicate and the copy to be placed in the flight record book pending the return of the individual to whom the original is issued.

10. *Use of parachutes.*—(i) Whenever A.I.D. staff are required to make a flight and the pilot is equipped with a parachute, A.I.D. staff must be similarly equipped before undertaking the flight.

(ii) In certain instances, the necessary parachute can be obtained on loan from the aircraft contractor. When it is not possible thus to obtain a parachute, A.I.D. staff at aircraft contractors' works may have the use of the parachute which is supplied for the use of the R.T.O. In this connection it must be understood that the R.T.O. has prior claim to the use of the parachute at his station.

(iii) When a flight is to be made from a service station, a parachute can be obtained on loan from the unit.

(iv) When a parachute is required under this ruling, but is not obtainable, the matter is to be reported to headquarters, pending whose instructions A.I.D. staff are not to make the flight.

11. In no circumstances is any member of the A.I.D. to sign any form indemnifying the contractor before undertaking a flight in an Air Ministry aircraft at contractor's works

OFFICIAL VISITS

Official Visits, other than to R.A.F. Units

1. A visit report is to be made by a member of the A.I.D. staff at the conclusion of any visit he has made on duty away from his station.

2. A separate report is to be made for each visit to each works, station, etc., as under :—

(i) At headquarters, in triplicate by typed report or use of a manifold book.

(a) If the report is made by the head of a branch, the original and second copy are to be submitted to the A.C.I. The original is to be retained by the A.C.I., the duplicate, unless required for further action, being destroyed. The triplicate is to be retained by the originator.

(b) If the report is made by junior staff, the original and duplicate are to be passed to the head of the branch, the third copy being retained by the originator. The original is to be retained by the head of the branch, the duplicate being destroyed, unless required for further action.

(ii) At outstations (other than A.I.D. offices), in triplicate by typed report or use of a manifold book.

(a) If the report is made by the Inspector-in-charge, the original and second copy are to be forwarded to the appropriate branch at headquarters, the third copy is to be retained by the originator.

(b) If the report is made by junior staff, the original and second copy are to be forwarded to the Inspector-in-charge, who is to forward the original to the appropriate branch at headquarters, if he considers such action necessary, and file the duplicate with the relevant papers. The third copy is to be retained by the originator.

(iii) Both at headquarters and outstations (other than A.I.D. offices) reports are to be headed, as follows :—

“ Report on visit to.....by.....
Date of visit.....”

(iv) At A.I.D. offices, on A.M. Form 1353 in duplicate. The original is to be passed to the Inspector-in-charge. Instructions for the compilation of this form are contained in para. 3. Where the report is made by the Inspector-in-charge, one copy is always to be forwarded to A.C.I.S.2.

3. *At A.I.D. offices.*—The following instructions are issued for guidance in compiling reports on A.M. Form 1353 :—

(i) The “key letter” referred to in the third line of the heading of the form is that shown against a particular firm’s name in the A.I.D. list of approved firms.

(ii) *Check tests.*—The letters A, D, E, F, M, represent the more usual forms of check test carried out by office staff during their supervision of firm’s approved inspection, and indicate :—

- A. Analytical.
- D. Dimensional.
- E. Test Equipment.
- F. Functional.
- M. Material.

In addition, other checks, such as hydraulic and pressure tests, various process tests, &c., are frequently made during supervisory duties. Where these check tests are not assignable to any of the five categories mentioned above, they are to be included in the body of the report under “Remarks”, and should the Inspector-in-charge consider them of sufficient importance to constitute a check test, he is to endorse the report with the letter “G” (indicating General) and such endorsement is to be made only by the Inspector-in-charge or his deputy when so acting.

(iii) The blank space against “Application for Test” is allocated for the inclusion of the name of some other approved test house, when it is desired that a check test should be made by an independent authority.

(iv) Where the report refers to a visit to an approved firm, the last item of the printed heading “Are conditions of approval, &c. . . .” must be answered, and, where it is found that the conditions are not being fully maintained, a brief statement as to the reason and of any action taken is to be included under “Remarks”.

(v) *Remarks* are to be as brief as possible, and, in addition to any particulars referred to above, are to contain statements of fact only. When any unusual incident arises or important decisions are given during the course of a visit, details of these should preferably be the subject of a special report, unless covered by a letter confirming the decisions or arrangements made, when a reference to the special report or letter will, in most instances, obviate the necessity for further remarks.

(vi) The transference of the particulars contained in the report to the supervision chart (A.M. Form 1215) and to the large office chart is to be carried out by clerical staff, who will initial the report in the bottom right-hand corner, after making the entries. The letters A, D, E, F, M and

G, referred to in sub-para. (ii) above, are not to be entered in the supervision charts. The only markings in the chart to be used in this connection are to be "C.I." (check inspection) or "C.T." (check test). In general checks those under D will be recorded on the chart as "C.I.", those under A, E, F, and M as "C.T."

(vii) On completion of all action and entries, the originals of visit reports are to be filed as follows:—

(a) Reports on supervisory visits—with the papers relating to the approved firm.

(b) Reports on visits other than supervisory—with the papers relating to the contract or order concerned.

4. *Notice of intention to visit.*—Before the Inspector-in-charge of a resident station or inspection bond leaves his station to make a visit elsewhere, he is to send prior notification to the A.C.I. concerned. Such notification will be normally made by letter, but where time is short it may be made by telephone or telegram. The destination and the estimated duration of absence from the station are to be stated.

Official Visits to R.A.F. Units

5. When it is desired that a member of the A.I.D. shall visit a R.A.F. unit, previous notice must invariably be given to the C.O., and the visitor must report to him immediately on arrival. The sole exception to this rule is as stated in para. 7.

6. The introduction into a R.A.F. station of any person outside Air Ministry or R.A.F. service, *including contractors and their representatives*, is forbidden to A.I.D. staff, unless such introduction has been expressly sanctioned by the Air Ministry. An Inspector-in-charge who wishes to arrange such an introduction must communicate in writing with the head of his division, who, if he approves of the suggestion, will take up the matter with the Air Ministry branch concerned with the administration of the unit affected.

7. Where A.I.D. staff is posted to a unit, a member of A.I.D. headquarters staff may visit such a unit without prior notice, providing he does so purely to carry out his duties of supervising or advising the A.I.D. staff. Even then, however, he will report to the C.O. while at the station.

8. Whilst visiting any R.A.F. unit, A.I.D. staff must bear in mind that they, in common with all other persons who are on the unit's premises, are under the orders of the C.O., and must obey any instructions applicable to them which may be issued by the C.O. or with his authority.

9. For the purposes of this leaflet the A.I.D. Test House at No. 1 Stores Dépôt is not regarded as forming part of the unit. The Air Ministry pattern room at the same dépôt is, however, dépôt property, but persons having legitimate business there

in connection with Air Ministry tenders and contracts are permitted by the dépôt rules to visit the pattern room without special formalities, except that they must report to the warden at the entrance gate.

10. (i) By arrangement with the various directorates concerned in the Air Ministry, Inspectors-in-charge of aircraft and engine stations are authorised to visit R.A.F. units or establishments when aircraft or engines constructed at their stations are being delivered to those units, or the units are in receipt of them from reserve stocks. The information gained from these visits should be of considerable assistance to the Inspectors-in-charge in guiding the inspection at their stations, and also to the units through liaison with A.I.D. ; Inspectors-in-charge are therefore to make the fullest use of the facilities provided. They are to pay sufficiently frequent visits for these purposes to those R.A.F. units concerned. Whenever possible the aircraft and engine inspectors are to endeavour to arrange their visits conjointly.

(ii) The following are the main occasions upon which units should be visited :—

(a) When deliveries are made to units from production contracts of new types of aircraft or engines and “ production ” types manufactured by other than the parent firm.

(b) When “ production ” types of aircraft and/or engines are delivered to units which have not previously been equipped with the type.

(c) When units are equipped from reserve stocks and not by direct deliveries from contractors' works.

Note.—Visits necessary under (b) and (c) above will be notified to the Inspector-in-charge concerned by headquarters.

(d) When experimental aircraft and engines are delivered to the Marine Aircraft Experimental Establishment, Felixstowe, or to the Aeroplane and Armament Experimental Establishment, Martlesham Heath.

(iii) It is particularly emphasised that the most value will be obtained from these visits in the early stages of delivery from any contract. When it has been established that the aircraft and/or engines are giving satisfaction in service the visits to the units may be less frequent.

(iv) With the exceptions quoted above, the initiation of, and arrangements for, each visit are to be made by Inspectors-in-charge direct with the units concerned, but the regulations governing visits to R.A.F. units are to be strictly observed. Units are to be given as much notice as possible of intended visits. Normally at least one week's notice will be given.

(v) Inspectors-in-charge must notify A.C.I.A.2. or A.C.I.E. of intended visits ; normally these should be of not more than one day's duration.

11. A visit report is to be made by a member of the A.I.D. staff at the conclusion of any visit he has made to a R.A.F. station on duty. When these reports are made by headquarters staff, they are to be dealt with as laid down in para. 2 (i) above. When they are made by outstation staff, they are to be dealt with as laid down in para. 2 (ii), but the original copy of the report is in every instance to be forwarded to headquarters for the information of the A.C.I. concerned.

12. Where a member of the A.I.D. staff is attached to a R.A.F. station for a course of instruction, he is to present to the C.O. for countersignature two copies of his visit report at the expiration of his attachment. One copy should be left with the C.O., the other being forwarded by the individual to the A.C.I. concerned through the usual channels. Where, however, the visit is made for any purpose other than that of undergoing a course of instruction, the visit report need not be submitted to the C.O., unless the latter so desires.

Visitors' books

13. (i) *At headquarters*.—A book is kept by I.G., in which any member of the A.I.D. outstation staff, who visits headquarters, is to enter the following particulars :—

- (a) Name ;
- (b) Date of visit ;
- (c) Station ;
- (d) Purposes of visit.

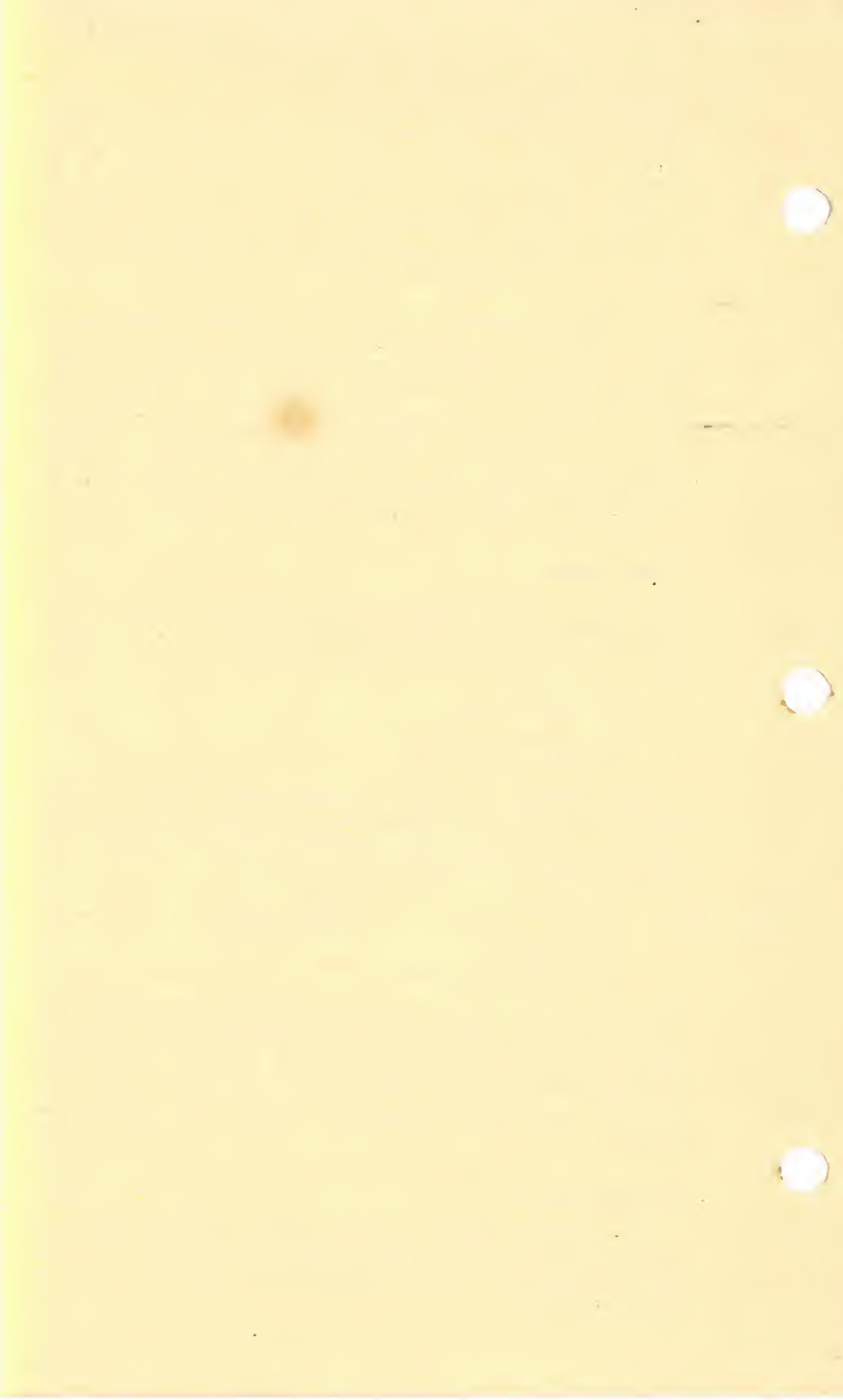
(ii) *Outstations*.—At each A.I.D. office, bond, resident station and at the A.I.D. Test House, a visitor's book (S.O. Book 135) is to be kept. Every visitor, who is a member of the A.I.D. staff is to enter the following particulars :—

- (a) Name ;
- (b) Date of visit ;
- (c) Station ;
- (d) Purpose of visit.

This book is to be ruled in columns corresponding to these four items. The Inspector-in-charge is responsible for seeing that all A.I.D. visiting staff sign the book, and for inviting Air Ministry visitors to sign either the A.I.D. visitors' book or D.T.D.'s when there is a separate visitors' book kept by the R.T.O.

Visiting cards

14. A standard type of visiting card is available for use of staff at headquarters and staff posted to A.I.D. offices. Special cases not covered by above should be referred to headquarters for consideration.



TECHNICAL COMMITTEES

1. For each B.S.I. or other technical committee, sub-committee or panel on which the A.I.D. is represented from headquarters, a registered file will be opened and all relevant correspondence, minutes, &c., will be placed therein. Where the A.I.D. representative is a member of the outstation staff he will open a special folder for the like purpose.

2. When a new or revised specification reaches the "first proof" stage a new file is to be opened for this specification, a copy of the proof and any papers relevant thereto will be placed therein and the file passed to the head of the branch for scrutiny and comment. The head of the branch will, if he considers necessary, pass this paper to the head of the division or the A.C.I. in order that any points of disagreement may be settled in the early stages. Succeeding proofs will be similarly dealt with in the same file.

3. When the specification reaches the "final proof" stage but before it is submitted to the B.S.I. Sectional Committee or other main committee, the file, with an entry drawing attention to the final proof, will be submitted through the head of the division to D.A.I. with a recommendation as to whether or not agreement can be signified. When the A.I.D. receives a new specification in the preparation of which it has not taken part, it will be passed through the head of the division to D.A.I. for his information under cover of a loose minute sheet, with a similar recommendation.

4. Notes for the guidance of A.I.D. representatives on technical committees, sub-committees and panels engaged in preparing specifications are given below.

5. With the object of ensuring uniformity of action, and effectual presentation of the Directorate's views, the following notes are recorded for the guidance of staff acting as A.I.D. representatives on technical committees, sub-committees and panels :—

(i) The main concern of the A.I.D. in a specification centres on the nature and adequacy of the proposed tests and the suitability of the proposed methods of testing. The actual acceptance figures are of less consequence from an inspectional aspect. For example, the A.I.D. representative may leave unchallenged a proposal to specify a minimum breaking load or stress, but may have to intervene if a tolerance on that figure is suggested, since the point then arises of the degree of accuracy with which the test can be carried out under routine conditions.

(ii) The following general considerations should be borne constantly in mind :—

(a) The method of testing should be the simplest that will ensure the requisite degree of accuracy.

(b) The method should be capable of employment as a routine test, and susceptible of accurate repetition. Tests that are in the nature of research should be avoided, and any test whose completion needs a protracted period of time is useless as a routine acceptance test.

(c) Only where details of testing apparatus are essential to ensure that the determinations can be accurately repeated (for example, the cold test on lubricating oil) should such details be embodied in specifications. Even then, two or more alternative types of apparatus should be included if at all possible. In all other instances the specifications should be so framed as to leave the inspecting authority free to employ whatever apparatus it considers suitable.

(d) A clear distinction should be maintained between inspection and testing. While, as stated at (c) above, definition of testing apparatus may sometimes be admissible, a specification should never embody detailed stipulations of inspectional processes or appliances.

(e) A specification should not stipulate the performance of two or more different tests designed to determine the same feature.

(f) In separate specifications covering similar products the clauses governing inspection and/or testing should be identical or closely similar.

(g) Where a dimensioned drawing is embodied in a specification, the tolerances should be carefully scrutinised to ensure that the tolerance on a dimension does not clash with the sum of the tolerances on the parts of that dimension. Where possible, dimensions should be measured from a common datum line.

6. In addition to the foregoing matters, attention is directed to the following general points :—

(i) Particular care should be taken to see that specifications are confined to strictly technical stipulations. The inclusion of clauses of a contractual character should be opposed on the ground that contract requirements change from time to time and vary as between different purchasers, and that each such change or variation would invalidate the specification.

(ii) Opposition should be offered to the designation of D.A.I., or any other specific person or persons, either as

the authority who is to be "satisfied" or as arbitrator. If clauses of that kind must be inserted the expression "inspecting authority" should always be used.

(iii) Many specifications lay down the proportion of test pieces to be taken. In principle, such proportion should be based on some system of batching, such as "cast" or "cast and heat treatment"; and wherever possible the requirements should be so worded as to ensure that this principle is adopted, and that each test piece, or group of test pieces, represents a particular batch.

(iv) Requirements as to the marking of goods should be avoided on the same grounds as apply to contractual clauses (*see (i) above*); but marking clauses may be unavoidable where the markings can, from the nature of the goods, be applied only as an integral process of manufacture.

7. If an A.I.D. representative considers that a committee's decision, his objection to which has been outvoted or overruled, is likely to contravene any of the principles enunciated above, he should report the matter at once to the head of the division.

AIR MINISTRY INSTRUCTIONS AND ORDERS, A.I.D. CORRESPONDENCE AND RECORDS

1. The regulations governing the conduct of official business and staff duties at A.I.D. headquarters are contained in the following publications :—

- (i) Notices to A.M.R.D. Branches.
- (ii) Office Instructions for the Guidance of Persons Serving in the Air Ministry.
- (iii) Office Memoranda.

2. Copies of these publications are circulated for the information of each member of the A.I.D. at headquarters. The general regulations applicable to A.I.D. outstation staff are embodied in Air Publication 826, a copy of which should be in the possession of each Inspector-in-charge, who will be held responsible for compliance therewith by his staff. Staff serving under the Inspector-in-charge should be afforded access to the copy, in order that they may be aware of the regulations.

3. Air Ministry orders are mandatory on all staff, but such of these orders as immediately affect the A.I.D., being few in number, will be specially referred to in A.I.D. Monthly Orders.

Inspectors-in-charge are to ensure that all staff under their control have an opportunity to see all orders which may be of interest to them, particular care being taken not to overlook the staff who are posted to a Station or Group Office under their administration.

4. A.M.R.D. Notices to Branches are scrutinized at A.I.D. headquarters, and any matter that concerns A.I.D. outstation staff is promulgated in A.I.D. orders.

Correspondence and Records

Headquarters

5. The general rules as to correspondence at the Air Ministry are contained in " Office Instructions ".

6. Official correspondence is not to be deposited in desk drawers. Cabinets and cupboards containing correspondence not of a secret or confidential nature are not to be locked.

7. *Inspection Files.*—As the inspection of a contract constitutes a distinct phase of action, a file should be registered for dealing with inspection questions on each Air Ministry contract, the subject of such files being, *e.g.*, " Inspection of Contract No. 13542/31. For Bristol Fighters with The Bristol Aeroplane Co." Only one inspection file should be opened for each contract and should contain all correspondence between A.I.D. and other branches of the Air Ministry, and all correspondence between H.Q. and outstations and contractors. When the opinion of another branch of the Air Ministry is required on any particular point the file should be minuted to that branch in the usual way. Where special

action by A.I.D. is necessary in connection with a requisition, an inspection file should be opened. Such a file can be subsequently converted into the contract inspection file by arrangement with the Registry.

8. *Retention of certain classes of files by A.I.D. branches.*—

(i) With reference to "Office Instructions", A.I.D. branches are authorised to retain the special categories of files detailed below. In order readily to distinguish "retention categories" from all other files, the standard subject headings shown are to be exclusively used. Heads of branches will be responsible for ensuring that variations are not permitted to occur.

(ii) The only receptacles in which the files may be kept are cupboards and filing cabinets. They must not be placed in the drawers of tables or desks. The initial placing of a file in a receptacle must be authorised by a responsible member of the branch, who will mark the file "Hold" with his initials and the date. A fresh "Hold" marking will be required on the return to the Branch of a file which has been elsewhere before again placing in a cupboard or filing cabinet.

(iii) Heads of divisions are to arrange that all files retained in their divisions under this authority are periodically inspected at intervals which, except on the authority of D.A.I., must not exceed one month.

Division or Branch concerned.	Description.	Standard Subject Heading.
All branches	(a) Contract inspection files : For recording inspection matter on a particular contract.	"Inspection of" (followed by contract No., contractor's name, etc.).
All branches	(b) Posting files : For recording posting, etc., of the individual named and treated as a personal file.	(Name of individual) "Posting of."
All branches	(c) A.I.D. representation on technical committees.	(Name of technical committee or sub-committee) followed by "Minutes and Miscellaneous papers."
All branches	(d) Administration files : For recording administration of individual stations, offices, etc.	(Name of station, office, etc.). "Administration of."
I.S. ..	(e) A.I.D. mechanical transport files : For recording maintenance, etc., of the particular car named.	"A.I.D. M.T." (followed by Type and registered No. of car.).
I.E. ..	(f) Engine inspection queries : For recording branch inspection queries on service and or civil aero engines and their accessories.	"Inspection queries" (followed by description of engine or accessory concerned).

Division or Branch concerned.	Description.	Standard Subject Heading.
I.E. ..	(g) Engine inspection defects : For recording branch defect queries on service or civil aero-engines and their accessories.	" Inspection defects, A.I.D." (followed by description of engine or accessory concerned).
I. Arm. ..	(h) Inspection of explosives : For dealing with reports for current year.	(Name of station) followed by " Inspection of explosives for the year....."
I. Arm. ..	(i) Inspection of danger buildings : For dealing with reports for current year.	(Name of station) followed by " Inspection of danger buildings for the year....."
I.G. ..	(j) Weekly mail letter file : For recording inward and outward weekly mail letters with staff posted abroad.	" Weekly mail letter (name of station)"
I.G. ..	(k) Approval files : For recording approval of inspection.	Approval of firms' inspection (Name of firm.)
I.G. ..	(l) Provisioning files : For Furniture, Clothing etc.	A.I.D. Equipment. Provision of.....
I.G. ..	(m) Directors' Order files : For recording and issue of orders.	Directors' Order No. Approval and distribution of
I.G. ..	(n) Financial recovery of testing charges.	A.I.D. Testing Charges, Recovery from.....

Correspondence between Headquarters and A.I.D. Staff Abroad

9. All inward correspondence intended for A.I.D. headquarters, on whatever subject, from A.I.D. Inspectors-in-charge overseas will be addressed by them to The Secretary, Air Ministry, Adastral House, Kingsway, W.C.2, and marked for the attention of the head of the division to which they are attached.

10. The originals and two copies of all outward communications will be passed by hand to I.G. who will be responsible for despatching the original communications to Inspectors-in-charge overseas, making use of the Air Mail wherever possible.

11. (i) A weekly mail letter will be forwarded by I.G. to each Inspector-in-charge, A.I.D., overseas, making use of the Air Mail wherever possible. The weekly mail letter will be given a serial number, and will embody the following information :—

(a) The reference and dates of all correspondence despatched to the Inspector-in-charge during the preceding week,

(b) A list of Director's and Monthly Orders issued since the despatch of the previous weekly mail letter.

(c) Acknowledgment of any incoming mail letters received in the interim.

(ii) With the weekly mail letter will be enclosed :—

(a) Copies of correspondence despatched during the preceding week.

(b) Copies of newly issued Director's and Monthly Orders.

(c) A copy of the previous weekly mail letter.

12. Inspectors-in-charge overseas will send to headquarters a weekly mail letter, making use of the Air Mail wherever possible, referring to, and where possible attaching copies of, correspondence despatched by them to headquarters during the preceding week. In the weekly mail letter they will acknowledge receipt of any headquarters weekly mail letter which has reached them in the interim.

13. An A.M. file for each oversea station will be maintained by I.G. It will contain all incoming weekly mail letters with their relevant enclosures, and copies of all out-going weekly mail letters with their relevant copies of enclosures.

14. Headquarters branches concerned are required to record on each enclosure to each inward weekly mail letter what action has been taken by them, giving reference wherever possible to the file on which such action is proceeding. I.G. is responsible for passing these files to the branches concerned by hand, and branches will co-operate by recording the action they have taken.

15. At monthly intervals the files will be referred by I.G. to D.A.I. for his information.

Outstations

16. All correspondence from outstations to A.I.D. headquarters is to be addressed to the Secretary, Air Ministry, the letter being marked for the attention of the division or branch concerned. Wherever possible, the Air Ministry file number is to be quoted. One subject only is to be dealt with in any one letter.

17. *Correspondence with firms.*—Letters to contractors, &c., are to commence "Dear Sir," and signed as follows :—

"Yours faithfully,

Inspector-in-charge, A.I.D.
for Director of Aeronautical Inspection."

Such letters should, wherever possible, be signed by the Inspector-in-charge personally. At resident stations, correspondence between the A.I.D. and the contractor will be carried out by station memoranda. (A.M. Form 1084.)

18. *Contract records*.—Inspection history cards and engine test and despatch records will be forwarded to the head of the appropriate branch as and when the aircraft or engines to which they refer are despatched.

19. *Contract correspondence*.—All other contract correspondence and records are to be retained at stations, &c., for a period of twelve months following the completion of the contract, after which they may be destroyed if no longer required.

20. *General correspondence*.—All general correspondence should be filed in suitable folders. On 1st January each year a new set of folders is to be taken into use. The old folders should be retained locally for a period of three years, after which they may be destroyed if no longer required. In no circumstances may official records and documents be disposed of as ordinary waste paper. Care should, therefore, be taken to ensure that complete destruction by fire is effected.

21. *Correspondence and records at stations that are closing*.—The Inspector-in-charge responsible for the closing of a station will cause all records to be examined, and will destroy any no longer required which are of the requisite age, as laid down above. Any files which have not attained the requisite age should be labelled so that their contents can be easily identified, and forwarded with a covering letter to The Secretary (Archives), Air Ministry, R.A.F., Kidbrooke. All other records on station charge, including contract records, specifications, publications, &c., are to be forwarded to I.G. under a covering letter.

22. *Dating of letters, reports, etc.*—Any member of the A.I.D. staff writing his signature in an official letter, report or other document is to ensure that the date in which his signature is made is plainly shown on the document. In any report it is essential that the date or dates of the occurrence of the events reported shall be clearly stated on the body of the report. The date appended to the report as a whole cannot be taken as that of the occurrences described therein, unless the word "to-day" appears in the report.

23. *Treatment of reports and other communications intended for official purposes*.—All reports and other communications, intended for an official superior, are to be regarded as being made for such superior's information only and their contents must not be communicated to any persons other than Air Ministry officials, except with the authority or under the instruction of the head of the appropriate headquarters branch. Attention is also drawn to A.P. 826.

Secret and Confidential Documents

24. (i) Documents relating to secret aircraft, engines, armament or instruments, including specifications, Appendices A, drawings, contracts, inspectional instructions, &c., will be marked "Secret".

(ii) All ordinary experimental specifications, whether for aircraft, engines, armament or instruments, will in future be marked " Confidential ".

(iii) Secret documents, when despatched through the post, will be transmitted under registered cover, except when sent in special mail bags. They are to be placed in two envelopes, the inner one being sealed with wax and marked " Secret ", the outer one being also sealed with wax and marked " by registered post ". " Confidential " documents will be similarly enclosed in two envelopes, and sealed, but need not be sent by registered post, unless it is considered that circumstances require special precautions to be taken.

25. *Headquarters.*—(i) On receipt at A.I.D. headquarters of any packet marked " Secret " or " Confidential ", it will be opened only by the head of the division, A.C.I. or head of branch concerned. (See " Office Instructions " with regard to acknowledgment of secret or confidential communications.) Secret or confidential documents, whilst in A.I.D. headquarters, are to be kept under lock and key, either in a safe, a secure cupboard or an official black despatch case, issued for the purpose. They are not to be left exposed, even momentarily, unless the person authorised to hold them is actually present.

(ii) Secret or confidential documents (other than files) transmitted to other branches of the Air Ministry should be placed in closed envelopes. Secret files should be enclosed in the official lock-up cases provided for the purpose, a tab being attached to the outside of the case showing the file number and marking.

(iii) Heads of divisions are responsible that duplicate keys (duly labelled) of all cabinets and cupboards in their division which contain secret or confidential documents are deposited in a key press in I.G.'s office. The key of the key press in I.G.'s office will be held by I.G., a duplicate key being kept in the office of the Resident Clerk, Air Ministry.

26. *Outstations.*—On receipt at any A.I.D. outstation of any packet marked " Secret " or " Confidential ", it will be opened only by the Inspector-in-charge or, in his absence, by the acting Inspector-in-charge. Secret or confidential documents will be retained in the A.I.D. office under lock and key, either in a secure cupboard or in a safe, except when actually in use. Secret documents are not to be taken out of the A.I.D. office, except for transmission to some authorised person elsewhere in the manner laid down in para. 24 (iii) ; neither are they to be shown or explained to any person in such a manner that the whole assemblage can be visualized and understood.

Telegrams

27. Only urgent communications are to be sent by telegram; communications must be sent by letter whenever possible. Telegrams booking rooms in hotels, sleeping berths and the like, are considered to be private communications and their cost will not be repaid. Personal pronouns and such words as "please" are unnecessary.

28. (i) Telegrams despatched by outstation staff on official business will be prepaid from station imprest. Copies of all such telegrams must be attached to imprest as vouchers in support of amount claimed. At R.A.F. stores depôts, official telegrams will be handed into the Registry for despatch.

(ii) Telegrams despatched to headquarters should be addressed "Airministry London". The body of the telegrams should where possible commence with the A.M. reference number thus—"422000/31/I.A.1" or the designation of the branch for which it is intended, thus—"I.A.1."

Telephones

29. The use of the telephone is to be restricted to instances in which urgency, together with economy in the broadest sense, will thereby be secured. Inspectors-in-charge are to watch carefully the use of the telephone and to consider, before authorizing a trunk call, whether they can justify it, if called upon to do so.

30. Every trunk call originating at headquarters requires prior approval by an officer not lower than the head of a branch. Trunk calls originating at an outstation must have the prior approval of the Inspector-in-charge or, in his absence, his deputy. Whenever possible advantage should be taken of making trunk calls after 1400 hours (2 p.m.), as reduced charges are then available. All concerned should be acquainted with the approximate cost of trunk calls normally required at their stations. A list of such charges should be kept readily available.

31. (i) *At all outstations* a record is to be kept of all trunk calls made by A.I.D. staff. Where appropriate, this record is to show calls made under "Inspection Service", "R.T.O. Service", and "Meteorological Service". (The last-named refers to calls made by delivery pilots in obtaining weather reports.)

(ii) *At resident stations*.—The contractors' or G.P.O.'s claim for telephone charges made over their lines is to be obtained monthly. The claim will be paid by recovering the cost of any private calls from the individuals concerned and charging

the official calls to station imprest, the claim being endorsed accordingly. Where appropriate the receipt bill will be further endorsed :—

“ The above charges for official calls are sub-divided as follows :—

R.T.O. service £

Inspection service £

Meteorological service £

(Sgd.)I. i/c.”

(iii) *At non-resident stations.*—Official calls made over contractors’ and sub-contractors’ lines are to be paid for at the time and a receipt obtained. Such expenses will be paid from station imprest.

(iv) *At A.I.D. offices.*—The local postal authorities will submit claims direct to the Inspector-in-charge, the cost of private calls being recovered and the cost of official calls being paid from imprest. The receipted claims are to be endorsed accordingly. Claims for telephone rentals, &c., are to be dealt with in a similar manner.

32. Calls of a private nature must not be made on official lines by staff junior to assistant chief inspectors. Assistant chief inspectors and above are permitted to use the official telephone for urgent private calls. They are to notify the exchange at the time that the call is private and will be required to defray the cost.

A.I.D. ORDERS AND INSTRUCTIONS

1. The technical and administrative instructions, orders, &c., issued by this directorate consist of:—

- (i) Inspection Instructions.
- (ii) Standing Orders (A.P.1455).
- (iii) Director's Orders.
- (iv) Monthly Orders.
- (v) Circular Letters.
- (vi) List of firms whose inspection and testing facilities have received A.I.D. approval (List of Approved Firms).
- (vii) Memoranda.

2. The preparation and issue of the foregoing is set out below. One copy of each is also issued to A.C.I.'s and Inspectors-in-charge for use as an "office" or "station" copy. It is essential for each new entrant (Assistant Examiner or above) to have a complete set of Inspection Instructions, Director's Orders and Standing Orders (A.P.1455) available for his personal use immediately on reporting for duty. I.G. will arrange for these documents to be forwarded to the Inspector-in-charge concerned, prior to the date on which the new entrant is to report. Should these documents not have arrived by the date applicable the Inspector-in-charge is to notify I.G. to this effect.

3. *Inspection Instructions.*—These instructions are published in "A" "E" "S" "Arm" and "M" series. Sufficient copies are issued to Inspectors-in-charge resident stations and offices to allow them to meet the requirements of approved firms under their supervision. When insufficient copies of Instructions and/or amendments are received Inspectors-in-charge are to forward a demand in duplicate for additional copies to I.G., who will arrange with A.M.P.D. for issue. When the issue of an Inspection Instruction is restricted, notification will be made in Monthly Orders.

4. The issue of Inspection Instructions is the standard method of affording guidance to A.I.D. staff on technical matters regarding inspection.

5. The need for the issue of an Inspection Instruction may arise, either as the result of experience, indicating the necessity for standardising certain inspection procedure, or from suggestions made by individuals at A.I.D. headquarters or outstations, it being laid down in Section B that the submission of suggestions to this end forms part of the duties of Inspectors-in-charge.

6. The actual preparation of the first draft of an Inspection Instruction devolves upon the appropriate branch at headquarters. As soon as the first draft has been compiled, it is to be submitted in a registered file to the head of the division, with whom the decision rests as to whether the Instruction is to be issued or not. If the latter decides in favour the registered file will be passed to the heads of the other divisions, in order to ascertain whether their divisions are interested. If either or both divisions are interested each will nominate a member of the drafting committee.

7. A committee consisting of not less than three members is then to be set up by the head of the originating division for the purpose of drafting the Inspection Instruction. Within one month of its appointment this committee is to submit the draft to the head of the division primarily concerned, and will assume that it will be issued "provisionally" in roneod form for a period of six months.

8. This provisional draft, as submitted by the drafting committees, will then be referred to any other Directorates of the Air Ministry, which are likely to be interested. Their concurrence having been obtained, the file is to be passed to the heads of the other divisions, in order that they may formally record their concurrence.

9. The head of the originating division will then approve the "provisional" issue and forward it to I.G. to arrange for reproduction and distribution.

10. Inspectors-in-charge, to whom provisional issues are made, are to forward a report to the head of the branch technically concerned on or before the expiration of five months from the date of issue, pointing out any difficulties they may have encountered in the working of the procedure detailed therein and submitting their suggestions for any amendments which they consider should be embodied. Even where no difficulties have been encountered or where no amendments are suggested each Inspector-in-charge is to report accordingly.

11. After the receipt of the reports referred to in para. 10 and previous to the expiration of six months from the date of issue, the drafting committee is to meet again and is to consider all the relevant information submitted by Inspectors-in-charge outstations, draft the "first issue" of the Inspection Instruction and, where the head of the division authorises an Inspection Leaflet, the latter is also to be drafted. Should these drafts differ from the "provisional issue" they are to be referred to any other Directorates of the Air Ministry which are likely to be interested for their concurrence. Their concurrence having been obtained, the file is to be passed to the heads of the other divisions in order that they may formally record their concurrence. When agreement has been reached, the committee will be automatically disbanded.

12. The head of the originating division will then approve the "first issue" of the Inspection Instruction and forward it to I.G. to arrange for production and issue. He will at the same time approve the Inspection Leaflet, if one is submitted.

13. Inspection Instructions are to be issued in accordance with the following procedure :—

"Provisional Issue."—As detailed by the head of division.

"First and Subsequent Issues."—To every member of the A.I.D. Technical Staff except when copies are marked "For Official Use Only" when issue will be restricted to A.I.D. Technical Staff concerned and must not in any circumstances be issued to approved firms.

14. The procedure set out in the previous paragraphs is subject to the following provisos :—

(i) The head of a division has power in the preliminary stages of an Inspection Instruction of a simple and straightforward nature to eliminate the "provisional" issue and to authorise the initial issue as a "first" issue.

(ii) In some instances it may be found that the "provisional issue" of an Inspection Instruction is unsatisfactory and requires considerable alteration. In such an event a second "provisional issue" may be made at the discretion of the head of the division.

15. All Inspection Instructions "first issue" are to be reviewed by the originating branch at headquarters at twelve monthly intervals, or at shorter intervals, if the desirability of revision becomes apparent.

16. If any amendment is considered to be desirable as a result of such review, the procedure given in paras. 11 and 12 is to be followed.

17. *A.I.D. Standing Orders, A.P. 1455.*—These orders contain administrative orders of a permanent character. Proposals to amend existing standing orders should be forwarded to I.G. for consideration by the Standing Orders Committee. Amendments which receive the approval of D.A.I. will be promulgated. Every member of the A.I.D. technical staff is to have a personal copy of A.P. 1455 and to maintain it with all amendments.

18. *Director's Orders.*—These orders contain administrative orders not considered sufficiently stable at the date of issue to enable them to be incorporated into standing orders. Drafts of proposed new orders or suggested amendments to existing orders should be forwarded to I.G. for consideration by the Standing Orders Committee. They require the concurrence of heads of divisions and the approval of D.A.I. before issue or re-issue.

19. Director's Orders are valid for a period of six months from date of issue or re-issue and prior to that date they are reviewed by the Standing Orders Committee, which will decide how they are to be dealt with :—

(i) Amend and re-issue the order with a new Issue No. and date.

(ii) Extend the order.

(iii) Incorporate the order into a standing order, or—

(iv) Cancel the order.

The action decided upon will be duly notified in Monthly Orders. Where the issue of Director's Orders is restricted to heads of branches and Inspectors-in-charge, information to this effect will be given in Monthly Orders.

20. *Monthly Orders.*—These orders announce the issue of the foregoing instructions and orders. They include such other technical and administrative instructions as may apply during the three months following date of issue. Orders likely to remain operative over a longer period than 3 months will be considered by the Standing Orders Committee. They also record the appointment, promotion and movement of A.I.D. personnel.

21. Monthly Orders are dated the first of each month and are issued on that date or as soon after as possible. Orders of an urgent nature which necessitate immediate promulgation may be issued as Monthly Order Supplements at any date during the month. In many instances the information contained in Monthly Order Supplements concerns heads of branches and Inspectors-in-charge only and issue is therefore restricted accordingly.

22. *Circular Letters.*—These letters may be issued from time to time by headquarters. Their use is to be confined to the notification to outstation staff of :—

(i) inspectional warnings, arising from difficulties, accidents or other causes ;

(ii) amplification of existing official instructions ;

(iii) tentative instructions, which may later be issued as inspection instructions ;

(iv) questionnaires applicable to more than one station.

Circular letters are not to be used to convey such instructions as are normally issued by means of Standing Orders, Monthly Orders and Director's Orders, nor to convey inspection instructions unless either by reason of urgency or uncertainty it is not possible to issue the information in the normal form. Circular letters are to be signed only by the head of a division or his appointed deputy, who will decide the distribution.

23. Each circular letter is to embody a statement of the period for which it will be valid. The period is not to exceed twelve months from date of issue. Further, any circular letter is liable to cancellation by special notice at any time. Unless so cancelled each circular letter will, when its period of validity approaches expiry, be reviewed by the Standing Orders Committee in order to decide whether :—

- (i) it should be re-issued as a fresh circular letter or in some other form ; or
- (ii) it should be allowed to expire.

24. Where a circular letter is of permanent interest, it is to contain a final clause as follows :—

“ The above information is to be carefully noted as it will not be re-issued.”

Circular letters containing this clause will be destroyed at the end of the period—*see* para. 23.

25. Whenever a circular letter is issued, one copy is to be passed to the head of each of the other four divisions who will decide whether the information contained in the letter under review is of importance to his staff and, if so, take action to extend its circulation if necessary. One copy will also be passed to I.G. so that he may arrange for reference to the Standing Orders Committee as in para. 23, and one copy to each A.C.I.

26. *List of approved firms.*—This list contains the names and addresses of firms whose inspection and testing facilities have received A.I.D. approval and also the designation of the supervising inspector. The list is prepared by I.G. It is issued periodically and all additions, deletions and amendments are notified by a quarterly amendment list. Sufficient copies of the list and amendments are issued to Inspectors-in-charge at resident stations and offices to allow them to meet the requirements of the approved firms under their supervision.

27. A.I.D. Memoranda will contain instructions or information of an administrative nature primarily for circulation outside the Directorate. A.I.D. Memoranda may also be used to promulgate instructions to A.I.D. staff where such instructions are subject to periodical alteration.

28. The distribution and issue of the documents detailed in paragraph 1, (i), (ii), (iii) and (iv) are arranged by I.G., and sufficient copies are forwarded to Heads of Branches. Inspectors-in-charge, A.I.D. Stations, Offices, Bonds and Test Houses for distribution to staff under their control.

It is the responsibility of Heads of Branches and Inspectors-in-charge who have staff temporarily attached to another station, etc., to forward copies of these documents on to them.

Where a Resident Station or Group Office is opened under the control of a " Main station " or " Office," it is the responsibility of the Inspector-in-charge of the " Main Station ", or " Office " to ensure these documents are forwarded to the staff who are posted to the Resident Station or Group Office under his control.

SUPPLY OF STATIONERY, PUBLICATIONS AND OTHER OFFICE REQUIREMENTS

1. *Headquarters.*—(i) *Stationery, forms, &c.*—These will be demanded in accordance with the procedure set out in Office Instructions.

(ii) *Publications, orders, &c.*—These may be demanded from I.G. as and when required.

2. *Outstations.*—(i) *Stationery (envelopes, paper and the like).*—A.I.D. Bonds at stores depôts will demand direct from the C.O. under local conditions. At all stations and offices demands will be submitted half-yearly in triplicate on Form 195 between 1st and 15th of June and December of each year to—

“ The Secretary,
Air Ministry, S.5.b.,
Kingsway,
London, W.C.2.”

The quantities demanded will be those which, together with stock on hand at the time of indenting, will be sufficient to cover six months' requirements plus a month's reserve.

H.M. Stationery Office will forward with each consignment of stationery listed on Form 195 one set of forms (3 copies) to be used for the next demand. Miscellaneous items not listed on Form 195 should be demanded on Form 195A, copies of which may be obtained from A.M.P.D.

(ii) *Numbered forms, cards and labels.*—A.I.D. Bonds at stores depôts will demand direct from the C.O. under local conditions. At all stations and offices demands will be submitted half-yearly in duplicate on Form 294 between 1st and 15th of June and December of each year to—

“ Air Ministry Publications Depôt,
Kidbrooke,
S.E.3.”

The quantities demanded will be as laid down for stationery, &c., at (i) above.

(iii) *Unnumbered forms, &c.*, are not stocked by A.M.P.D. These should be demanded by letter on I.G.

3. Publications, orders, regulations and instructions which are considered necessary for A.I.D. staff in connection with their duties are issued to heads of branches and Inspectors-in-charge concerned. Notification of issue, amendment to or cancellation of any of these publications, &c., is promulgated in Air Ministry Orders. All instances of non-receipt or suggestions to increase or decrease the number of copies received should be referred to I.G.

4. Heads of branches and Inspectors-in-charge receiving copies of such publications, &c., are responsible that :—

(i) at least one copy is maintained up to date as a station record ;

(ii) additional copies intended for re-distribution to members of their staff or for issue to approved firms under their supervision are duly distributed ;

(iii) " station " record copies are loaned to members of their staff who may wish to study them.

Inspectors-in-charge requiring publications, &c., which have not been notified in Air Ministry Orders should apply to I.G.

5. *Specifications*.—New issues, amendments and cancellations of B.S., D.T.D., G.E., and government department specifications are notified in A.I.D. Monthly Orders. Inspectors-in-charge requiring copies should demand as follows :—

B.S. and D.T.D. specifications .. To A.M.P.D.

G.E. specifications To R.D.A.3.

Government department specifica- }
tions } To I.S.

6. *Typewriters*.—Demands for typewriters should be submitted to the Inspector-in-charge, A.I.D. Test House, on A.M. Form 835 in duplicate.

7. *Repair of typewriters*.—(i) When typewriters on A.I.D. charge require to be repaired, the Inspector-in-charge should apply to the maker's nearest branch or accredited agent as given in A.P. 113. The branch or accredited agent will proceed to carry out the repair, on the authority of the Inspector-in-charge, if the estimated cost does not exceed £2.

(ii) When repairs have been satisfactorily completed, the agent's claim is to be so certified and returned to him. It is not to be paid from station imprest.

(iii) When an estimate for repair exceeds £2, or the maker's branch or accredited agent considers the machine beyond repair, an estimate or report should be submitted by the branch or agent to H.M. Stationery Office via the parent company for attention.

(iv) A typewriter sent for repair will, where necessary, be despatched by passenger train, carriage paid by sender, the cost being defrayed from imprest, and supported by the receipted bill. Care must be taken to see that a machine so sent is properly and efficiently secured to prevent damage in transit.

(v) Private or unauthorised agents will not be employed unless repairs are so slight that the cost of carriage to the nearest authorised agent is considered likely to be equal to or greater than the cost of repair, when the work may be

done by a local repairer and the bill paid from station imprest, The reasons for departing from the normal procedure are to be endorsed on the bill by the Inspector-in-charge.

8. *Replacement of typewriters.*—(i) Where an Inspector-in-charge considers that the required repairs are likely to take more than seven days, and that serious inconvenience is liable to result from the absence of a machine for such a period, he should apply to I.G. for a replacement, unless the loan of a machine, *free of charge*, whilst the government machine is under repair, can be arranged with the branch or accredited agent. The application is to specify the make, size and registered number of the machine to be replaced.

(ii) Whenever a typewriter is replaced the following information is to be rendered to the Inspector-in-charge, A.I.D. Test House :—

Make, registered number, size and date of receipt of new machine.

Make, registered number, size and date of despatch of the replaced machine and to whom consigned.

9. *Rubber stamps.*—Demands for rubber stamps, other than inspection stamps, are to be submitted to the Inspector-in-charge, A.I.D. Test House, on A.M. Form 835 in duplicate, together with the design of the stamp in quadruplicate.

10. *Local expenditure on printing.*—Where the provision of special printed forms or inspectional records would result in the saving of clerical work, the Inspector-in-charge may have such printing carried out locally provided :—

(i) Provision is extremely urgent.

(ii) Expenditure on any one order does not exceed £1.

(iii) No printing expenses are incurred for forms for which a standard R.A.F. or A.M. form exists.

Bills for local printing are to be forwarded to I.G. with a detailed statement showing the necessity for the expenditure involved.

11. *Marking of Official Photographs.*—The copyright of all official photographs produced by A.I.D. staff is the property of the Crown. Such photographs may only be used for official purposes and must not be reproduced for any other purpose without prior written authority from headquarters. In order to preserve the Crown copyright all prints are to be impressed with a stamp as detailed in para. 8 of A.M.O. A.526/26.

IMPREST ACCOUNTS

1. A station imprest is issued to each Inspector-in-charge at an A.I.D. office or resident station in the United Kingdom, if required, by Accts. 3.a on the authority of the head of a division or A.C.I. concerned.

2. The Inspector-in-charge to whom a station imprest is issued is personally responsible for its safe custody. He must at any time be prepared to surrender the original sum issued or a balance which, together with vouchers for properly authorised expenditure, makes up the original sum.

3. A station imprest is issued to cover the following expenditure :—

- (i) Travelling claims after pre-audit.
- (ii) Postage and telegrams.
- (iii) Telephone charges.
- (iv) Such other charges as have been authorised by headquarters for payment.

4. The station imprest is held on a quarterly basis, and accounts of expenditure made up to the last day of a quarter are to be rendered on Form 151 to the Air Ministry (Accts. 3.a.) on 31st March, 30th June, 30th September and 31st December. The imprest is to be maintained in the following book " Accts. General 2.E A.G.A.C.O.S.T. Code 1.2.11 " which is obtainable from S.5.B.

5. When an Inspector-in-charge holding a station imprest is transferred during a quarter, he will render separate accounts in respect of each station for the broken periods of the quarter. Before leaving the old station he will, unless otherwise instructed, hand over any balance of cash in hand to his successor, obtaining a receipt from him in support of his imprest. When, however, the station is closing, he will forward the unexpended balance to the Air Ministry (Accts. 3.a.) by cheque made payable to the Secretary, Air Ministry, and crossed " Bank of England—A/c of H.M. Paymaster-General ".

6. A standard sum is fixed for each station. Reimbursement of the amount actually expended during the quarter will be made on receipt of the account in the Air Ministry. This, with the unexpended balance in hand, will have the effect of restoring the original amount of the imprest.

7. Where, owing to abnormal expenditure, the balance in hand is not sufficient to cover the estimated expenditure for the remainder of the quarter, the imprest-holder will submit an application on Form 156 to his A.C.I., for such further sum as he may consider necessary.

8. At R.A.F. stores depôts and the A.I.D. Test House, the station imprest is held by the civil assistant. Travelling claims and other authorised charges are to be passed to that official for payment.

9. At resident stations abroad, station imprests will be provided locally on the application of the Inspector-in-charge to A.I.D. headquarters. The Inspector-in-charge receiving an imprest will conform to the instructions issued locally with the imprest.

USE OF MECHANICAL TRANSPORT BY A.I.D.

Purpose of Providing Cars

1. Mechanical transport vehicles are provided for use by A.I.D. outstations for various reasons. At *Offices* the object is to economise the working time of the staff, and thus to enable the territory to be effectively covered with fewer men than would be otherwise needed. At *resident stations*, cars are allocated only where the aerodrome, or other detached section of the works, is some distance from the main establishment, and there is no suitable public transport between the two. At certain stations cars are also allotted for use in connection with the inspection of civil aircraft and the supervision of ground engineers.

Instruction to Holders

2. *Use of A.I.D. Service transport.*—A.I.D. service transport is issued to certain Inspectors for use at their station on *bona fide* duty journeys only. Journeys from contractors' works and A.I.D. offices to Inspectors' private addresses, where the latter are required to proceed with A.I.D. service transport direct to an aerodrome or another contractor's works, either at the time or the following morning, may be considered as "duty" journeys, provided that—

- (i) the Inspector's address is on the line of route ;
- (ii) economy in time, etc., results.

3. *Care and maintenance.*—Each car is placed on the personal charge of the member of the A.I.D. staff to whom it is allotted by D.A.I., and that person is fully responsible for its legitimate usage, safe custody and serviceable condition. The holder will not be released from this responsibility until he has duly handed over the car and obtained a receipt for it, as instructed by I.S. Facilities for local repairs, replacement of unserviceable parts and the cleaning and maintenance of the machine (*see* para. 25) should enable all concerned to keep this transport in serviceable condition. A perusal of the handbooks issued by the makers, which are supplied to all car-holders, will materially assist A.I.D. staff in observing these requirements.

4. *Reconditioning.*—In the event of a serious breakdown of a car, or where a thorough overhaul is considered necessary, a full report is to be made to I.S. by the Inspector-in-charge. Should a serious breakdown occur involving transport or other assistance in removing the car to a place of safety (*i.e.*, the nearest available garage if the machine is distant from the holder's station) such action of removal should be immediately

taken to secure the safe housing of the car and accessories (the tools being removed by the holder to be retained in his possession pending instructions regarding repairs to the machine), and a full report forwarded as above, together with a statement of all charges incurred.

5. *Local repairs and replacement of unserviceable parts.*—At stations and offices where cars are garaged on an agreement as laid down at para. 25 (iii), repairs are to be carried out as under :—

(i) Minor repairs and adjustments are to be carried out free of charge under maintenance agreement.

(ii) Mechanical operations, such as decarbonising, grinding in valves, &c., are to be carried out, as considered necessary by the Inspector-in-charge, on an estimate obtained and approved by him, provided the total cost of repairs plus replacements of unserviceable parts does not exceed a total sum of five pounds.

(iii) Major repairs are to be carried out by the maker's accredited local repairers, if within reasonable distance, on instructions from I.S. Where this is not possible, three tenders should be obtained from suitable firms and forwarded to I.S. with a covering letter.

(iv) In the case of repairs under (ii) above, the receipted bill is to be forwarded to I.S. with a covering certificate as follows :—

“ I certify that the repairs were necessary to replace and/or adjust parts temporarily defective or rendered unserviceable by fair wear and tear, and that the services claimed for were performed to my satisfaction. I further certify that the charges are considered fair and reasonable, that no charges in connection with the services now claimed for have been previously rendered by me, and that all unserviceable parts have been duly destroyed.

The detailed record of this service has been inserted in the log book.”

6. Where the total cost of the repair will exceed £5, prior headquarters authority is to be obtained before it is put in hand.

7. All instances of negligence (damage or loss of parts) are to be reported to I.S. The report is to state the name of the individual considered liable and whether he is willing to pay the cost of repair or replacement. The cost involved is to be quoted.

8. (i) *Replacement of outer covers and inner tubes.*—When covers and tubes are found to be unserviceable, demands for their replacement will be forwarded by Inspectors-in-charge to I.S. (A.M. Form 835, in triplicate). Demands are to state

the mileage of outer covers to be replaced and where necessary reasons for their premature unserviceability. On receipt of new outer covers, the following entry is to be made in the log book.

No. of cover.	Date taken into use.	Speedometer reading at that date.
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(ii) *Disposal of unserviceable outer covers and inner tubes.*—At stations situated in or near London unserviceable covers and tubes are to be returned to the A.I.D. Test House. At other stations unserviceable covers and tubes will be disposed of locally. Inspectors-in-charge concerned are to insert the following certificate on the relevant vouchers furnished by the Inspector-in-charge A.I.D. Test House.

For outer covers.

“I certify that cover No..... which has a mileage of is unserviceable, due to fair wear and tear (damage) and has been destroyed.

signed.....
Inspector-in-charge.”

For inner tubes.

“I certify that the inner tube referred to above is unserviceable, due to fair wear and tear (damage) and has been destroyed.

signed.....
Inspector-in-charge.”

9. *Lubrication.*—(i) “Oil, lubricating, heavy, M.T.”, (Sec. 34.A/Ref. 35) is to be used for general and engine lubrication. Lubricating oil for use with both Morris Cowley and Major cars is to be demanded in 5 or 10 gallon drums on A.M. Form 835 in triplicate when required, Ref. Nos. being quoted in every instance. Demands are to be forwarded to headquarters, (I.S.).

(ii) Special oil is required for gear boxes, rear axles and for use with grease gun. For this purpose oil, lubricating (Sec. 34.A/Ref. 51) is to be used. It is to be demanded in 5 gallon drums on A.M. Form 835 in triplicate. Grease may be purchased and paid for from Imprest.

10. *M.T. Petrol Supplies.*—M.T. petrol Grade 3 is to be obtained by Inspectors direct from Air Ministry contractors for petrol, and not from R.A.F. units or depôts. The practice of carrying loose petrol in two gallon or other containers *inside* A.I.D. cars is not permitted. No additional petrol beyond the capacity of the car tank, plus a two gallon tin fitted on the running board may in any circumstances be taken on any A.I.D. car. The procedure for obtaining supplies is as follows :—

(i) At Southern Area Offices, demands are to be forwarded to the Inspector-in-charge A.I.D. Test House

on "Demand for M.T. petrol" forms, obtainable on application to the Test House. The form is to state the number of gallons required for a month. Demand Form 531 will then be forwarded by the A.I.D. Test House for the petrol Grade 3 required, which will be obtained from the contractor or his agent specified on the form, who will, on delivery issue advice and inspection notes in duplicate on Form 530. After checking the quantity received, the "black" copy of Form 530 is to be signed and returned to the contractor, and the "red" copy signed and forwarded direct to the A.I.D. Test House, together with the agent's invoice ticket for petrol delivered. The contractor will subsequently submit his bill, which is to be forwarded direct to the A.I.D. Test House. A demand for petrol is to quote the registered number(s) of the vehicle or vehicles for which it is required.

(ii) For all other holders of A.I.D. transport, the method of obtaining petrol Grade 3 required for A.I.D. cars will be from the pump of one of the Dépôts of either the Shell-Mex and B.P. Ltd. or the Anglo American Oil Co. or other contractor as may be notified from time to time. Under their Air Ministry standing contracts, the various dépôts of these contractors will meet demands from A.I.D. for petrol Grade 3 which will be supplied by them on re-payment.

11. A separate book of Form 531 (Local Order Form for petrol) is to be maintained for each car on charge. Form 531 is to be prepared giving the contractor's name, the contract number, the number of gallons of petrol required and the registered number of the car concerned. Form 531 is to be signed by the Inspector-in-charge or his deputy. The original copy of Form 531 will be handed in at the contractor's dépôt whereat the petrol is required, the duplicate copy remaining in the order book. The individual receiving the petrol will be required to sign a contractor's ticket showing the amount of petrol that has been received in the tank. He will be supplied with a duplicate of the contractor's ticket, which is to be attached to the duplicate copy of Form 531. The amount of petrol obtained is to be recorded in the quarterly return of journeys A.M. Form 1385 (to be recorded in column 7 against the date of receipt), the number of the Demand Form 531 also being quoted.

12. At the end of each month the contractor will submit to the Inspector-in-charge a set of Forms 530 covering the total issue of petrol during the month. If correct, the Forms will be signed and the following action taken :—

(i) All black copies of Forms 530 are to be returned to the contractor.

(ii) The red copy of Form 530 is to be forwarded to the Inspector-in-charge A.I.D. Test House, accompanied by a completed R.A.F. Form 674. The amount of petrol recorded on R.A.F. Form 674 should agree with that shown on Form 530.

Note.—The issue Voucher Number on R.A.F. Form 674 will be inserted by the Test House. R.A.F. Form 674 is required in order that the amount of petrol quoted on Form 530 may be written off charge.

13. In exceptional circumstances where it is not possible to obtain petrol from the contractor's depôts under the foregoing procedure it may be purchased from the nearest available pump. In such instances payment is to be made at the time of purchase and the proprietor's receipted bill obtained. Cost of purchase will be paid from station imprest and the account supported by the receipted bill. The latter, however, is to be forwarded to I.S., together with a completed copy of R.A.F. Form 674 showing the amount of petrol purchased and a statement by the Inspector-in-charge explaining the necessity for special purchase. I.S. will endorse and return the receipted bill to the Inspector-in-charge and will forward R.A.F. Form 674 to the Test House, after endorsing it as follows :—

“ The above petrol was specially purchased at a cost of.....and was expended in Car..... on official business.

(Signed).....I.S.”

14. *Empty petrol cans.*—(i) For all petrol cans in the Inspector's possession, issue vouchers on Form 630, in quadruplicate, are to be made out by the A.I.D. Test House. Three copies are to be forwarded direct to the contractor and the fourth to the Inspector-in-charge. The number of cans enumerated on the fourth copy should be handed over to the contractor or his agent and his receipt obtained at the top left-hand corner. The receipted copy should then be forwarded to the A.I.D. Test House, together with the contractor's invoice ticket relating to the transaction. It is essential that invariably this be done, otherwise the cans will still be debited to the individual concerned.

(ii) Petrol cans are on no account to be allowed to accumulate at stations, but are to be returned to the contractor regularly as fresh supplies are drawn.

(iii) Petrol cans and wooden cases are charged at the following rates :—

2-gallon cans	3s. each.
Wooden cases (to contain four 2-gallon cans)	4s. each.

(iv) In normal circumstances Inspectors will not draw wooden cases when obtaining petrol. The same procedure is applicable for wooden cases as for empty petrol cans.

15. *Accidents*.—The position of A.I.D. staff injured when driving service transport in the discharge of their duties will be dealt with under warrants issued by the Treasury under Section 1 of the Superannuation Acts of 1887, if their emoluments exceed £350 per annum; otherwise the Workmen's Compensation Act will apply.

16. The circumstances in which accidents may occur are of such a varied nature that it is impossible to lay down any hard-and-fast method of dealing with claims that may arise from third parties. It may, however, be assumed that, provided there is no misconduct or serious negligence on the part of an A.I.D. driver, the Air Ministry will as a general rule take such action as may be necessary to effect settlement of third-party claims.

17. As regards the preceding paragraph, it must be clearly understood that, in the event of his misconduct or serious negligence, an A.I.D. driver may be required to make good any resultant loss or damage to Government property and may also be left to settle claims by third parties himself; he may also, in a serious case, be liable to dismissal.

18. The payment of fines and legal and other expenses incurred by A.I.D. staff when driving service transport on duty, for the commission of any offences under the various Road Traffic and other Acts, is entirely a matter for the individuals concerned.

19. (i) All accidents, whenever they involve personal injury, damage to car or property, must be reported immediately to C.I.S. by telephone.

(ii) C.I.S. will decide if an enquiry is to be held and arrange accordingly as early as possible.

(iii) Form 446 is to be completed and forwarded to A.C.I.S.(2) on the day of the accident, or no later than the following day, and is to be accompanied by a letter giving fullest details available at the time. Any of the undermentioned particulars which cannot be supplied with Form 446 must be furnished as soon as they are available.

(a) Police report (if any).

(b) Where the accident resulted in personal injuries, information as to whether injuries were slight or severe, whether the injured person or persons were able to proceed home or were taken there by the A.I.D. vehicle or some other conveyance, or whether the injuries were sufficiently serious to necessitate removal to hospital, and if so, whether the person was allowed to go home or was detained.

(c) In cases of fatal accidents a newspaper report of the inquest should be obtained and forwarded in due course.

(d) A retainer in the following form (for use in the event of an action to recover damages being brought by a third party) :—

“ To the Treasury Solicitor :—

I (full name and Christian names of the person driving) hereby request and authorise you to act on my behalf in connection with any proceedings which may be instituted in respect of an accident which occurred on (date)..... at (place).....when I was driving an Air Ministry vehicle.

Signature.....

(Date)..... ”

N.B.—The signing of this retainer is not to be regarded as binding the Air Ministry to defend any action brought by the third party.

(iv) When an A.I.D. car is involved in an accident, no liability should on any account be admitted. In the event of an accident, however trivial, whereby damage or injury is caused to any person, vehicle, animal or property, the person driving will, in accordance with the provisions of the Road Traffic Act, 1930, stop his vehicle and give his name, address and the identification marks of the vehicle, to any person having reasonable grounds for requiring him to do so. If for any reason he is unable to furnish the required particulars to the police at the time of the accident, he will report the accident to them within 24 hours of its occurrence. Every effort is to be made to secure the names and addresses of any persons who may have witnessed the accident, as well as of the drivers and owners of any other vehicles concerned.

(v) If a non-Government vehicle is involved, enquiry should be made, irrespective of the question of responsibility for the accident, as to whether the owner is insured against damage to his vehicle and as to the name and address of his insurance company.

(vi) When an A.I.D. car is damaged in a collision with a non-service vehicle a notification on the following lines should be sent to the driver (*or, if he was driving on behalf of an employer, to the driver's employer*) with as little delay as possible after the accident, unless such action is clearly inappropriate:—

“ I have to advise you that on.....
.....19..... at.....
an Air Ministry.....No.....
was damaged in an accident in which your.....
was involved.

If it should appear on investigation that such accident was due to the negligent driving of your vehicle, the Air Ministry will hold you responsible for any loss or damage sustained and particulars thereof will be notified to you in due course.

The Government has, however, a large number of agreements with insurance offices of the character of mutual assurance and in case it may be possible to dispose of the matter under one of these agreements I shall be glad if you will furnish me with the name and address of your insurance company and particulars of your policy (i.e. comprehensive, full third party, or third party personal injuries only).

If you desire to inspect the Air Ministry vehicle, it may be seen at..... on production of this letter.

Should your third-party insurance cover damages to property, will you kindly inform me of the name and address of your insurance company, when the matter will be taken up with them."

(vii) Any correspondence that ensues in regard to the accident is to be sent promptly to A.C.I.S.(2), the writers, if necessary, being informed simply that their letters have been forwarded to the Air Ministry.

(viii) After the first report of the accident has been rendered on Form 446, supplementary reports should be sent to A.C.I.S.(2) as soon as conveniently practicable, embodying :—

(a) Any further information that may be available as to the circumstances of the accident.

(b) Information as to the actual expense incurred in effecting any necessary repairs to the A.I.D. car, and as to whether any inconvenience or additional expense has been involved by reason of the "lay up".

20. When, under para. 19, it is decided to hold an enquiry, it will be conducted by a board consisting of an inspector or higher rank as president and two assistant inspectors. The president will be selected from one of the divisions other than that to which the car involved in the accident belongs. One of the assistant inspectors will be the Inspector-in-charge office or station to which the car belongs if he was not himself involved in the accident. If he was, then an assistant inspector of the same division. The third member of the board will be selected by C.I.S.

The board will enquire generally into the circumstances and, in addition to dealing specifically with the points enumerated in Form 446, will report on :—

(i) The amount of loss or damage.

(ii) Whether the inspector driving the car was on duty when the loss, damage or injury is alleged to have been occasioned.

(iii) Whether the loss, damage or injury was occasioned by any wrongful act of negligence on the part of the inspector driving the car.

(iv) Whether any wrongful act or negligence on the part of the person, company or corporation, or on the part of any person in the employ thereof or acting as agent thereof, contributed to the loss, damage or injury.

(v) Whether the person, company or corporation, or any person in the employ thereof or acting as agent therefore, might, by the exercise of due diligence and care, have avoided the consequence of the negligence or wrongful act of the inspector driving the car.

An Air Ministry file will be opened for each enquiry and the findings of the board are to be passed to D.A.I. by the president.

21. *Records*.—A.I.D. cars, together with their respective log books (Form 813), and daily registers of journeys (A.M. Form 1385), are subject to periodic inspection by headquarters staff, as laid down in para. 37 below.

22. There is no fixed limit to journeys but Inspectors-in-charge are responsible that an official car is used only :—

(i) when an outside public conveyance is not available or is available only at an equal or greater expense or at a serious sacrifice of time ;

(ii) when no other official is taking over the same ground a service or private car in which the official might reasonably have travelled ;

(iii) when necessary for the carriage of bulky or heavy equipment or fragile instruments.

23. *Daily register of journeys* (A.M. Form 1385).—(i) This form is to be maintained daily by each inspector having an A.I.D. car on his charge.

(ii) Full details of each journey, e.g., firms visited and their location must be entered in column 2 and on completion of a journey the particulars regarding time of return and mileage are also to be entered on A.M. Form 1385. Where it is apparent to the Inspector-in-charge that any journey may give rise to audit or other query, explanatory details are to be embodied in the return. It is essential that all entries in respect of journeys be fully completed not later than the working day next following the date of the journey or journeys.

(iii) A.M. Forms 1385 signed by the Inspector-in-charge are to be forwarded to Headquarters, (I.S.) for audit on 1st January, 1st April, 1st July and 1st October of each year. The certificate at the foot of the form " that all journeys have been performed on duty and necessarily by M.T. " must be completed. A new Form 1385 is to be taken into use each quarter in order that the daily record of the car may be maintained. The completed Form 1385 for each quarter will, after scrutiny by I.S., be passed to I.G. for audit.

(iv) The petrol account at the head of the form is to be completed on the last day of the quarter or on the date a car is transferred.

(v) The petrol "carry over" from the preceding quarter is to record the amount in the tank and also the amount in cans. Similar information as to petrol remaining in the tank and in cans is to be given at the end of each quarter.

(vi) When petrol supplies are received, the amount and the A.I.D. stores voucher number are to be entered in column 7 of the form at the date of receipt. The amount of petrol taken in the tank from cans is also to be shown against the date in column 8, and such entries signed at column 10.

24. *Log books (Form 813).*—It will *not* be necessary to complete the daily record columns in Form 813. At the end of each month, however, and/or on transfer of the car, the columns referring to the amount of petrol taken in, number of miles run, and average miles per gallon, are to be completed by the insertion of monthly totals, &c., extracted from A.M. Form 1385. Log books are also to contain a complete record of all repairs carried out and the replacement of parts, tyres, &c.

25. *Garages.*—Inspectors-in-charge are personally responsible that all A.I.D. cars on their charge are suitably garaged and efficiently maintained.

(i) Cars on charge of resident Inspectors-in-charge at contractors' works will normally be garaged in the works, for which usually there will be no charge. A weekly allowance for cleaning and maintenance, &c., is admissible. Bills for this service may be paid from imprest, provided prior headquarters authority has been given.

(ii) At A.I.D. offices cars are garaged at selected garages. Payment of charges for garage maintenance, cleaning, &c., as laid down in (iii) below, may be paid from imprest, provided prior headquarters authority has been given.

(iii) The standard requirements for garaging and maintenance of service transport on A.I.D. charge are as follows:—

(a) The car is to be garaged and maintained in good mechanical condition.

(b) The car is to be washed and cleaned twice weekly and greased once weekly, tyres are to be inflated and changed as may be necessary. Tecalet service is to be given three times per annum.

(c) The car is to be kept available for duty by 8 a.m. each morning. It will usually be returned to garage by 6 p.m., but at times may be returned later according to the exigencies of the service.

(d) Petrol, oil, grease, and tyres will be supplied by the Air Ministry as necessary, and provision is to be made for the storage and safe-keeping of these supplies, together with the empty containers.

(e) Mechanical repairs, such as decarbonising, grinding-in valves, &c., will be paid for on an estimate submitted by the garage proprietor and duly approved. Major repairs will generally be carried out by the maker's accredited local repairer if within reasonable distance. All other adjustments are to be included in the maintenance of the vehicle.

(f) Agreements on these lines are to be made terminable by either side at one month's notice.

26. *Losses of M.T.*—Inspectors having A.I.D. cars on their charge are, in the event of their loss, to report the matter at once to the local police and inform I.S. by telegram, confirming by a letter giving full particulars.

27. *Licences.*—The licence and licence holder will be issued to the Inspector as part of the vehicle's equipment, and he will be responsible for their safe custody.

28. In the event of loss of licence, a duplicate will be issued only after a most searching investigation, and after final confirmation that it cannot be recovered. The holder of the vehicle will be charged for the cost of a duplicate licence. Such loss must be immediately reported to I.S.

29. Any Inspector driving an A.I.D. car must be in possession of a driving licence, and must have passed the A.I.D. official driving test (*see* para. 39 below). Where an Inspector takes out a driving licence for this purpose, the cost may be recovered from station imprest, provided the matter has been referred to I.S. and duly authorised. Inspectors-in-charge are responsible that applications for official licences are not submitted for individuals who normally require a driving licence for their private use.

30. *Handing over.*—Whenever an A.I.D. vehicle is transferred from one holder to another or withdrawn the following procedure is to be carried out :—

(i) The car with its accessories, log book, licence, &c., is to be carefully checked and the inventory duly signed by the inspectors handing and taking over. The inventory will in every instance be furnished for this purpose from the A.I.D. Test House.

(ii) The daily register of journeys, A.M. Form 1385 (*see* para. 23) is to be completed up to the time of handing over and the petrol account balanced.

(iii) A certificate as under is to be completed in duplicate by the Inspector taking over. One copy is to be handed to the inspector handing over and the other forwarded to I.S. :—

“ Transfer of Car No.....

From :—

To :—

The above car has been taken over by me against A.I.D. stores inventory and found to be correct.

The car is in a satisfactory running condition.

The following records, correctly made up to date, have been duly received :—

A.M. Form 1385.

Log book.

Copy of the Road Traffic Act.

The petrol account has been balanced on A.M. Form 1385 and found to agree with the petrol handed over in tank and cans. The number of cans taken over is correct. Petrol in tank..... galls. Petrol in cans..... galls.

(Signed).....

Inspector-in-charge taking over.,,

Date.....

Note.—Where, owing to deficiencies or defects, the Inspector taking over is unable to sign the above form, he will report the matter to I.S., forwarding a copy to the inspector who handed over.

31. *Precautions to be taken in frosty weather.*—(i) Special care is to be taken with A.I.D. cars during frosty weather. The responsibility rests with the holders.

(ii) *Cars in their garages.*—If the garage is not sufficiently heated, the water is to be drained from the cooling system of the car.

(iii) When the cars are left outside during the day-time for any considerable length of time, the water is likewise to be drained off ; but when they are left for only a short time, radiator lamps (which have been supplied for this purpose) are to be used. At the same time the radiator is to be covered over with the muff, and the bonnet with a rug or suitable covering. If this is not done considerable heat is lost. Care is also to be taken to leave the car in a sheltered position.

(iv) When very severe climatic conditions exist an anti-freezing solution should be used. Ethylene Glycol (Sec. 33.C/Ref. 516) is held in store and supplies are to be requisitioned on A.M. Form 835 in triplicate and forwarded to headquarters (I.S.). It is to be used in the proportion of Ethylene Glycol one volume, water nine volumes. Losses

due to leakage and/or overflow are to be made good by the addition of mixture made up in the original proportions. The use of this solution is of necessity left to the discretion of the Inspector-in-charge.

32. *Road Traffic Act*.—Each holder of A.I.D. transport is to be in possession of a copy of "The Road Traffic Act" together with such "Statutory Rules and Orders" and "Provisional Rules and Orders" as may be circulated by C.I.S. in connection therewith, and is responsible that the staff who drive the cars are acquainted with the requirements thereof. In order to comply with Section 121 (2) of the 1930 Act, requests for the nomination of the individual responsible for an alleged offence, except where it is clear that the driver alone is responsible, are to be referred with the least possible delay to A.C.I.S. (2) for decision, accompanied by a statement explaining the full circumstances of the alleged offence, together with the remarks of the Inspector-in-charge on the subject of responsibility. It is to be clearly understood that for offences of such a nature as to be the sole fault of the person driving, the latter alone is responsible.

Inspection, Care and Maintenance

33. Mechanical transport vehicles in A.I.D. service are placed on the charge of individual inspectors, and each such individual is responsible for complying with the instructions laid down in paras 2-31 of this leaflet.

34. It is, however, necessary that not only the actual holders of vehicles, but all A.I.D. staff who use A.I.D. mechanical transport, shall appreciate the importance of ensuring that it is properly and intelligently used and maintained.

35. Any member of the A.I.D. staff who drives an A.I.D. vehicle, and is not its nominal holder, is responsible for reporting to the nominal holder any point in its condition or functioning which in his (the driver's) opinion is defective, imperfect or undesirable.

36. It is essential that holders of vehicles report defects and imperfections to I.S. as soon as they have satisfied themselves that the defects, &c., exist. The practice of allowing defects to accumulate until a vehicle is almost unroadworthy results in enhanced expense to the Air Ministry, as well as in serious inconvenience through putting the vehicle out of service long enough for extensive reconditioning.

37. Each vehicle on A.I.D. charge will be inspected periodically by a representative of C.I.S. This inspection may include a test run on which the I.S. representative will drive. An I.S. inspection may also be made whenever a vehicle is transferred (with or without change of station) from one holder

to another. After any such inspection, the I.S. representative will enter in the log book the date and result of the inspection, and will file a copy of his full report in the registered file dealing with the vehicle in question. Holders and operators of A.I.D. vehicles are to afford the I.S. representative all assistance and information he may require.

38. In no circumstances may any individual be conveyed in A.I.D. transport other than A.I.D. staff, officials of other branches of the Air Ministry, or contractors' representatives who are necessarily accompanying A.I.D. staff in connection with A.I.D. duties.

Examination of A.I.D. Staff for Proficiency in Driving

39. Any member of the A.I.D. staff, who in the course of his duties is required to drive an A.I.D. car, must be in possession of headquarters' authority. This authority will only be given to :—

(i) individuals who have passed an A.I.D. test, which test is intended to confirm the capability of the individual concerned to handle a car in all ordinary circumstances and to prove his knowledge of the requirements of the Road Traffic Act on points which should be known to all who drive mechanical transport ;

(ii) individuals who are in possession of an R.A.C. drivers certificate.

40. Each application for the A.I.D. test is to be made to A.C.I.S.(2) through the local Inspector-in-charge. Applications are only to be forwarded from individuals who are in possession of a current drivers licence. A provisional drivers licence will not be accepted.

41. In exceptional instances, in order to avoid delay, members of the staff who have had extended experience in driving and hold current licences may be permitted to drive an A.I.D. car before passing the A.I.D. test ; but in each instance full information concerning this experience must be forwarded to A.C.I.S.2 and his authority must be obtained in writing before the individual is allowed to drive. In such instances an A.I.D. test will be carried out at the next available opportunity.

42. The fact that a member of the A.I.D. staff has been successful in passing this test will be recorded in his personal file and his A.I.D. pass, A.M. Form 620, will also be endorsed accordingly.